

European Recovery and American Aid



**A REPORT
BY THE PRESIDENT'S COMMITTEE
ON FOREIGN AID**

Washington, D. C., November 7, 1947

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THE SECRETARY OF COMMERCE,
Washington 25

DEAR MR. PRESIDENT: I have the honor to transmit the report of the non-partisan committee of distinguished citizens which you appointed last June 22 to advise you on the limits within which the United States might safely and wisely plan to extend economic assistance to foreign countries and on the relation which should exist between such assistance and our domestic economy.

It was my privilege to observe and to participate in the free and thorough discussion by the members of the committee which resulted in their conclusions expressed in this report. While the committee had the benefit of materials prepared by both Government and private sources, it was understood that the function of the committee was to give you the benefit of a completely independent judgment after taking into consideration all points of view, and its conclusions were reached on that basis.

Respectfully,

A handwritten signature in dark ink, reading "W. A. Harriman". The signature is written in a cursive style with a large, sweeping initial "W".

W. A. HARRIMAN.

THE PRESIDENT,
THE WHITE HOUSE.
November 7, 1947.

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Foreword

The report of the President's Committee on Foreign Aid which follows is divided into four major parts, each presenting in greater detail the work of the Committee on which its conclusions are based.

Part One is a summary in the plainest form of the Committee's conclusions and recommendations.

Part Two is a General Report, in which, still with a minimum of technical material and argument, but with more extended and intense analysis, the Committee seeks to fulfill the President's charge of advising him on the limits within which the United States might wisely and safely plan to extend economic assistance to foreign countries, and on the relation between this assistance and our domestic economy. Here are considered the interest of the United States in European recovery, the nature of the European recovery problem, the requirements for and availabilities of specific goods, the suggested magnitude of a program, its financing, its impact on the United States, and its administration.

Part Three is a series of special reports which represent, though they do not exhaust, the investigations and research which lie behind the less detailed section of Part Two. They are presented in order that the manner in which the Committee reached such of its conclusions as rest on statistical and analytical material may be made plain.

Part Four contains appendices on special problems which seemed to require more extended development than the character of Part Two permitted.

Every part of the report is the work of many persons. The members of the Committee, serving as chairmen and members of the several Subcommittees, the secretaries of these Subcommittees, and the Committee's staff are all responsible for the report. But, although the Committee did not hold any formal hearings, it had the advantage of assistance by consultants from relevant sections of American industry and specialists drawn from the several departments of the Government. Among the persons who aided the Committee in this way, special acknowledgement is due to the following: Mr. C. W. De Forest, Mr. William W. Flexner, Mr. Albert W. Keenan, Mr. Walter Levy, Mr. James McCullough, and Mr. Willard Morrison and his associates.

In addition to this direct assistance, informal consultation with a number of others from a broad range of industrial fields was of real

benefit to the Committee, as well as discussion with representatives of the American Federation of Labor and the Congress of Industrial Organizations.

In the international field, special appreciation is expressed to the representatives of the Committee of European Co-operation, with whom extensive conversations in Washington served, by reason of their helpful attitude, to clarify and immuninate that Committee's general and technical reports. Officials of the International Bank for Reconstruction and Development have also been of assistance.

In every case cooperation was willingly undertaken and the Committee returns thanks to these and to the many other persons by whom it has been aided in the course of preparing its report.

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PART ONE : SUMMARY

Summary

I. Principles

The President's Committee on Foreign Aid was asked to determine the limits within which the United States could safely and wisely extend aid to western Europe. It has approached this assignment in a spirit of realism.

We believe that the future of western Europe lies very much in its own hands. No amount of outside aid, however generous, can by itself restore to health the economies of the sixteen nations which met at Paris in July. Except in western Germany, where the United States has direct governmental responsibility, the success of any aid program depends ultimately on hard work and straight thinking by the people and the governments of the European nations themselves. The sixteen nations, and western Germany, comprise over 270,000,000 men and women. They possess great agricultural and industrial resources. Even in its present depressed state, the production of this area is vastly greater than any aid which this country can provide. Such aid must be viewed not as a means of supporting Europe, but as a spark which can fire the engine.

The Committee is also aware that the volume of aid required from the United States is of such proportions that it will place a substantial burden on the people of the United States. For all its resources, the United States is no limitless cornucopia. The population of this country represents something less than 7 percent of the population of the world. We have heavy responsibilities at home as well as in Europe, in Asia, and in our own hemisphere. The aid which we give represents, to be sure, only a small fraction of our total production. But at the present time there is no slack in the American economy, and every shipment abroad of scarce goods—especially food which Europe must have—adds to the inflationary pressure at home.

The Committee regards as nonsense the idea which prevails to a considerable degree in this country and abroad that we need to export our goods and services as free gifts, to insure our own prosperity. On the contrary, we are convinced that the immediate economic danger to the United States is inflation, which means, among other things, a shortage of goods in relation to demand. We believe that we should aim to achieve a condition in which exports from this country are more

nearly balanced by a return flow from abroad of services and materials essential to our own economy. We also believe that the European nations desire to achieve such an equilibrium in the interests of their self-respect and prosperity. To make this equilibrium possible should be a major objective of any program of aid.

The interest of the United States in Europe, however, cannot be measured simply in economic terms. It is also strategic and political. We all know that we are faced in the world today with two conflicting ideologies. One is a system in which individual rights and liberties are maintained. The opposing system is one where iron discipline by the state ruthlessly stamps out individual liberties and obliterates all opposition.

Our position in the world has been based for at least a century on the existence in Europe of a number of strong states committed by tradition and inclination to the democratic concept. The formulation of the Paris report is the most recent demonstration that these nations desire to maintain this concept. But desire is not enough. The democratic system must provide the bare necessities of life now, and quickly rekindle the hope that by hard work a higher standard of living is attainable. If these countries by democratic means do not attain an improvement in their affairs, they may be driven to turn in the opposite direction. Therein lies the strength of the Communist tactic: it wins by default when misery and chaos are great enough. Therefore the countries of Western Europe must be restored to a position where they may retain full faith in the validity of their traditional approaches to world affairs and again exert their full influence and authority in international life.

II. Policies

The success of any program for aid which may be adopted will depend on the policies which this country and the European nations pursue. It should be made a condition of continued assistance under such a plan that the participating countries take all practicable steps to achieve the production and monetary goals which they have set for themselves in the Paris report. Failure to make genuine efforts to accomplish these results would call for cessation of further assistance.

However, aid from this country should not be conditioned on the methods used to reach these goals, so long as they are consistent with basic democratic principles. Continued adherence to such principles is an essential condition to continued aid, but this condition should not require adherence to any form of economic organization or the abandonment of plans which call for a different form of economic organization if they have been adopted and carried out in a free and democratic way. While this Committee firmly believes that the Amer-

ican system of free enterprise is the best method of obtaining high productivity, it does not believe that any foreign aid program should be used as a means of requiring other countries to adopt it. The imposition of any such condition would constitute an unwarranted interference with the internal affairs of friendly nations.

The goals which the European governments have set for themselves and with which our Government may legitimately concern itself are conditioned by the nature of the European economic problem. The reasons for the inability of western Europe to balance its accounts with the rest of the world at the present time are generally understood and are ably analyzed in the report of the Committee of European Economic Co-operation. Western Europe is cut off from the food and supplies which flowed from eastern Europe before the war. Foreign investments and shipping revenues have been lost. The costs of essential food and raw material imports have risen and are still rising. To overcome these disadvantages European production must expand well above prewar levels; yet in important industries, especially coal mining, and important areas, especially Germany, it is lagging badly. It is the judgment of all competent observers that these troubles flow from an acute shortage of working capital and from the serious disintegration of organized economic life rather than from wartime physical destruction. Working capital, in the form of fuel, raw materials, and food, is needed to sustain Europe until its production is built up. Some capital equipment is needed to further the rehabilitation of industry. An effective restoration of the purchasing power of money is essential to the resumption of ordered economic life.

The Paris report cannot be praised too highly for its emphasis on this point. It clearly states that European production can expand only as currencies and exchange rates are stabilized, as budgets are balanced, and as trade barriers are reduced. Post-war experience has abundantly proved that if money demand is vastly in excess of the supply of goods, the effects of "repressed inflation" are almost as bad as the disease itself. Germany is but an outstanding example of an attempt to restore economic life without giving people a money they can trust. In this situation, the rapid spread of black markets undermines the respect for law. Normal monetary incentives cease to operate. The worker has no just reward for his labor and the farmer refuses to sell his produce. Resources are dissipated. Trade degenerates to barter. Controls tend to become self-perpetuating.

Achievement of monetary stability would allow a gradual restoration of normal incentives and a gradual return to a system under which individuals, and enterprises, both public and private, can operate in markets. It would also allow the stabilization of exchange rates, which is all but impossible so long as inflation proceeds apace.

It is obvious that this situation makes balance of payments problems that much more difficult. The Committee believes that in the near future some adjustment of exchange rates must be made. The prelude to that is internal monetary reform.

The Paris report rightly emphasizes the need for scaling down restrictions on trade between countries. But the reduction of tariffs is of little moment if exchange controls and other controls have to be maintained indefinitely. Whatever one's attitude toward planning and free enterprise may be, there is all but universal agreement that true economic recovery depends on releasing the energies of individuals and cutting down on time-consuming regulation of production and distribution.

III. Needs and Capacities

In emphasizing these points, the Committee is simply making explicit the principles that are imbedded in the Paris report. It does not wish to imply that confidence in currencies can be restored without increased production abroad combined with substantial injections of American aid. It believes that the need for holding inflation in check in this country and in Europe bears directly on the magnitude of the aid we can and should extend.

The Committee found little evidence that the goals set at Paris to restore standards of living were excessive in terms of basic necessities. Even if all the estimates submitted at Paris were to go through as planned, Europeans would not be eating as well in 1951 as they ate in 1938. If food were available, it would pay to meet these estimates in full in the interest of political stability. This is especially true in the case of Western Germany, where more food is essential to secure more coal production and the revival of an economy now obviously on dead center.

The Committee is not convinced, however, that the participating nations at Paris were wholly realistic in their plans for capital expansion. On the first point, it is obvious that if Europe is to be revived and made self-supporting—if our aid program is not to degenerate into just another relief program—the European nations will have to rehabilitate their capital plant. But it cannot be too strongly stated that the process of investment and capital formation imposes a severe strain on the country undertaking it. Such a task introduces money income into the economy, with no comparable output of consumer goods to sop up this purchasing power. This process is highly inflationary. To the degree that capital goods are sent to Europe from the United States, it is true, the strain is transferred from European economies to our own. Nevertheless, the secondary effects of large capital programs should not be overlooked. At the present time, gross investment in the United States is running at about 17 percent of

total national product at the height of a boom. Some of the European nations have attempted to exceed this rate. It seems unlikely that European nations can prudently afford to sustain capital formation on as large a scale as they have planned. What this means, in effect, is that housing programs and capital development may have to be slowed down until European recovery is much more advanced than at present.

In addition, the program written at Paris may have to be modified by a shift in the amounts going to the separate countries. As this shift is made, we believe that the amount of aid allotted to Germany may have to be higher than was set at Paris. This Committee wishes to state emphatically that the overwhelming interest of the United States is to prevent the resurgence of an aggressive Germany. The fears of neighboring nations are thoroughly understandable. On the other hand, it is generally admitted that the revival of Ruhr coal output, along with the increase in British coal output, is the crux of the problem of getting Western Europe back on its feet. Apparent savings to the American taxpayer, accomplished by spending too little money on Germany, have thus far been more than offset by the consequent deterioration of the general European economic situation.

The final factor determining the size of a prudent program is the availability of commodities in this country. The Committee has canvassed such availability in detail. At the Paris Conference, it was concluded that the Western Hemisphere simply did not have the food resources to supply all of the estimated needs. As against estimated needs for about 30 million tons of grain, the Paris Conference conceded that 25 million tons was the maximum that could be obtained from the outside world, with 9 to 10 million tons coming from the United States. During 1946-47 the United States exported a record total of about 15 million tons of grain, with less than 9 million tons going to the sixteen countries and Western Germany. During 1947-48, the record total may again be equalled, with something more than 9 million tons going to these countries. In view, however, of the poor American corn crop this year and the lack of fall rains, only exceptionally favorable weather during the next few months would make any such exports possible in 1948-49.

With a number of other commodities, the situation is only a little less stringent. Steel and the steel-making materials, especially scrap, are in particularly short supply in the United States. Because it is a basic industrial material, the effects of this shortage are pervasive. Coal exports at a high rate are possible, though they are imposing a strain on the United States transportation system and there may be a few shortages in the coming winter. The margin between supply and demand of petroleum products is very narrow in this country. The European countries do not expect to import petroleum from the United

States in volume, but the shortage, like that of steel products, is world-wide. There is little likelihood that these requirements set forth at Paris can be met.

The situation is much the same in regard to most of the items of machinery and equipment the European nations need. In the middle of an agricultural boom, the demand of American farmers for farm machinery is well beyond the capacity of the industry. As to mining machinery, coal output is at a high rate and American mine operators are buying as much machinery as they can obtain. Heavy electrical equipment of all kinds is perhaps the tightest industrial item of all. The story is much the same for certain of the basic raw materials.

These remarks do not imply that the United States can do little toward the rehabilitation of Europe. European governments and private firms have placed large orders in the United States for industrial equipment. A voluntary food conservation program has been initiated to make food available for export. In spite of shortages here, manufacturers of automobiles and farm machinery are voluntarily maintaining exports. If funds were available to finance European purchases and if European requirements were known in detail, exports could at least be maintained, and in many cases stepped up. In over-all terms, a foreign aid program would not even require the maintenance of present rates of exports. The conclusion that does emerge from the examination of particular markets for particular commodities is that supply will be a limiting factor in many cases and that many European requirements cannot be met in full.

IV. The magnitude of American Aid

On the basis of revised estimates of European imports and exports, the Committee calculates that the cost of the European aid program to the Government of the United States would be about 5.75 billions of dollars for the first year, and, in round numbers, between 12 and 17 billion dollars for the whole program here suggested.

These figures are not comparable to those contained in the Paris report. The latter are estimates of the deficit the participating European countries would incur in their trade with the Western Hemisphere. They measure the margin by which the European countries expect their payments in dollars for goods and services imported from the Western Hemisphere to exceed their receipts in dollars.

The Paris estimates of imports have had to be revised downward, mainly on the grounds of unavailability of goods. To the extent of this revision the estimated cost of the program was also reduced. At the same time it was necessary, on grounds of realism, to revise downward the European estimates of exports and to modify the figures in

a number of other ways which increase the cost. The result was an estimate by the Committee that the balance of payments deficit would be 1 billion to 1.5 billion dollars in the first year, and possibly as much as 5 billion dollars for the whole plan, than that contained in the Paris program.

The Committee's estimate of the cost to the United States Government is a smaller figure than the foreign trade deficit. First, a deduction must be made for the part of the program that can be financed through the International Bank. Second, there may be private financing. Third, a large part of the European deficit with the American Continent is with countries other than the United States. In its own interest, the United States will probably have to supply funds to cover a part of this deficit, but we should not have to finance it in full. When allowance is made for these deductions, the resulting figures are those given above for the cost to the United States Treasury.

It is helpful to compare the figures for the cost to the United States Government with what the United States has been doing for Europe in the past. Before the run on sterling in July the annual rate of withdrawals on the British loan was about 2.6 billion dollars. In addition, in the first half of 1947, the rate of withdrawals on other European aid programs—relief, UNRRA, and special grants—was about 2 billion dollars. In 1947 the United States assumed only half of the cost of German occupation, but in 1948 it seems likely that it will have to assume the whole burden, amounting to about 1 billion dollars.

When all these factors are taken into account, the program of aid proposed for 1948 proves to be a moderate increase on what the United States has in the recent past been spending in Europe and what will probably have to be expended in Germany in any case. In addition the program calls for increased lending operations by the International Bank.

Looking to the years beyond calendar 1948, the Committee emphasizes that any estimates are altogether speculative. The American people have an understandable interest in trying to ascertain the drain on their resources in the future. But it is totally impossible, and indeed unwise, to attempt to calculate this with accuracy. The Paris conference suggested that the total European foreign exchange deficit for the 4-year period 1948-51 would be about 22 billion dollars. The Committee's estimates range from 17 to 23 billion dollars. When deductions are made for various types of financing, the range of possible appropriations would be about 12 to 17 billion dollars. But the Committee cannot emphasize too strongly that any aid extended to Europe must be on a year-to-year basis. It must be subject to constant, vigilant review by the Congress.

V. Finance and Administration

Even to carry out a prudent program in 1948 entails the execution of certain fundamental policies on the part of the United States Government and the most careful administration. The Committee believes that any aid to Europe offered by the United States should be financed out of taxes, not out of borrowing. The maintenance of a surplus in the United States Treasury is a necessity in this inflationary period.

A foreign aid program will require means to make available goods that are in short supply. Voluntary measures should be relied upon wherever possible. If and when they are not, the Government will probably require authority to set priorities in order to insure the availability for export of limited amounts of the items most critically needed. It might also have to issue limited orders to control consumption of critical materials, such as those still in effect for tin. Especially in the field of food it might be necessary to use the device of requiring that limited quantities be set aside for export.

It must be emphasized that these suggestions apply only to the foreign aid program and not to the broad problem of inflation. The Committee is convinced that inflation is a serious deterrent to the stability of the American economy, but any consideration of a program to control inflation would have been beyond its competence and its terms of reference.

The Committee is convinced that the administration of the program is of primary importance because it will be necessary, for reasons given above, to adjust the program as it goes forward. To insure unity of administration, it is recommended that a new independent agency be set up in the Federal Government. The head of this agency should be appointed by the President and confirmed by the Senate. A board of directors should be appointed, representing the Departments of Government concerned with the program, including the Secretary of State and such other persons as the Congress may see fit to add.

The head of the new organization should be Chairman of this Board, which should have power only to establish and adjust general policies within the framework of Congressional action.

The operating decisions should be made by the head of the new organization, but it will be necessary for him to work out effective means for cooperation with the State Department concerning these major decisions which have an important bearing on the foreign policy of the United States.

The closest possible relations should be maintained between the new organization and the Congress. This is a question to be solved by the Congress, but we suggest it might be done by a special joint committee created for this purpose, as in the case of the Atomic Energy Commission.

The new organization must have a chief representative in Europe, reporting directly to the head of that organization, and responsible to him, to deal with the continuing committee set up by the participating countries, and also to coordinate the activities of the various local representatives of the organization who will be needed in the different countries. They will have to report to and be under the direct control of the head of the new organization. But they should keep the Ambassadors in the respective countries informed of their communications. In all cases where there is necessity for taking up important matters with governments, it should be done by the Ambassador to the end that there will be only one diplomatic representative of the United States in these countries. Due to the need for flexibility in the program, the Committee recommends that the corporate form of organization be given careful consideration.

VI. Summary

The basic conclusions of the President's Committee on Foreign Aid may be summarized as follows:

1. The hope of Western Europe depends primarily on the industry and straight thinking of its own people.
2. The United States has a vital interest—humanitarian, economic, strategic, and political—in helping the participating countries to achieve economic recovery.
3. The aid which the United States gives will impose definite sacrifice on this country.
4. The magnitude of Western Europe's deficit with the American Continent in 1948 will be of the order of 7 billion dollars, but when all possibilities of financing are taken into consideration, the approximate need for appropriations past and future to cover the calendar year of 1948 may be of the order of 5.75 billion dollars.
5. The extension of such aid, now or in the future, calls for anti-inflationary fiscal policies on the part of this country, and a new agency to administer the aid extended.

As a final word, both on the magnitude of the program recommended and on the policies outlined, it is well to bear in mind that success depends on giving way neither to over-optimism or to undue pessimism. It is one thing to propose a program, it is another to see it through. The immediate months and indeed years ahead are not apt to be easy either for this country or for the European nations. It is not wise to underestimate the steepness of the climb.

By the same token, however, it is essential to maintain perspective. The years following World War I were years of intense dislocation and dissolution both at home and abroad. Yet, by 1924, Europe, which seemed totally disorganized in 1919, was well on its way to recovery.

Even more in point would seem to be the wartime experience of this nation and other democracies. In 1940, it seemed inevitable that a large part of what we call Western civilization was irreparably lost. In late 1941, following Pearl Harbor, the fortunes of this nation were at an all-time ebb. Yet 4 years later, complete victory had been gained, American arms stood triumphant in the East and in the West, and it was obvious that the United States had entered into a new period of power, prestige, and responsibility. The following years have contained many disappointments. Wartime alliances have melted away. Yet it is safe to say that at no time in history has there been more need for Western Europe and the United States to stand firmly together. And who will say that, if we apply to the making of the peace the same spirit which triumphed in war, we may not see an equally dramatic vindication of the ideals and principles of free men everywhere?

PART TWO : GENERAL REPORT

I. Introduction

The Nature and Organization of the Report

A. The Basic Questions

In seeking to determine the limits within which the United States may safely and wisely plan to extend economic aid to Europe, and the relation between such a program and our domestic economy, the President's Committee on Foreign Aid has had to ask the following questions:

1. Why should the United States furnish aid?
2. Why do the European nations need help?
3. How much money and what kinds of goods can we safely and wisely furnish?
4. How can such a program best be financed and administered?
5. What will be the impact of such a program on our economy?

In the subsequent sections of this Report there are presented certain answers to these questions. The Committee believes that these answers are as accurate, and have been reached with as much deliberation as time permitted. Upon them the recommendations of the Committee are based.

B. The Character of the Answers

Posing these few questions is simple enough. Answering them is, for a variety of reasons, much more difficult. In some cases the answers must evolve out of the analysis of large bodies of complex factual and statistical material which tend to obstruct the development of plain conclusions. In other cases, many of the data necessary for framing complete answers are inconsistent beyond the hope of immediate clarification, and some do not exist at all. A further and more important limitation is imposed by the fact that the program of aid is conceived as running over a period of 4 years, from 1948 through 1951. Judgments of economic conditions are obviously less accurate for the farther than for the nearer years.

This is not to say that dependable answers to the broad basic questions are now impossible. It is clear from the nature of the questions that the reasons why the United States should aid Europe, for example, or the aims of such a program of aid, can be thought through as well now as later, and must in fact be determined before the validity of any specific proposal is examined in detail. The questions of the

amount and kind of aid needed, and of the ability of the United States to furnish it are of a different sort, the answers to which are gravely affected by the imperfections of available data, not only those on European requirements set forth by the Committee on European Economic Co-operation, but also those on the availability of the needed goods in the United States.

Even if the data were very much more complete and consistent, decisions of any great degree of particularity would be impossible. Many factors which cannot be anticipated with accuracy affect both the European and the American aspects of the problem; as a single example, the production of food, depending greatly on weather, cannot be precisely estimated in advance. The conclusions respecting questions of this sort which have been made by the Committee are therefore limited, first, to a number of broad recommendations as to policies and as to various features of the commodity and country programs, and second, to indications of the directions in which the admittedly rough estimates of European dollar deficits presented in the CEEC report should be modified.

Calculations made in the course of reaching conclusions of this sort are not intended to serve as the basis for any decision at this time as to the magnitude of a 4-year European aid program. They are mere planning estimates of the probable cost (in terms of a European dollar deficit) of achieving certain results. It is useful to have such estimates available when decisions, which do not have to be made now on such matters as organization and methods of financing, are being made. But they are useful only for this purpose.

It would be most unwise to attempt to determine in advance either the magnitude of the whole program or the exact amount of every commodity or product which Europe may need or the United States may be able to send. If a program of European economic aid running through 1951 is in fact approved by the Congress and undertaken by the United States, countless circumstances will arise during the life of the program which will and should affect its size, nature, and direction. It is of the utmost importance, if the program's objectives are to be achieved, that the persons charged by the Congress with its execution should, subject to congressional review and with the co-operation of the relevant officers in the executive branch, be able to revise and amend the program in the light of changing conditions. It is on continuing sound administration that the success of the program will largely depend. Believing this, the Committee has not hesitated to reach and to set forth in this report recommendations as to the validity and nature of the plan which are addressed rather to principles than to the elaboration of detailed blueprints for each of its aspects. This is equally true concerning the analysis of the program's impact on the American economy.

With respect to the financing and administration of any plan, however, the major judgments do not have to wait on additional detailed data or the working out over time of factors presently obscure. As has been implied, the Committee attaches very great importance to the decisions which are made concerning finance and administration. The growing realization by the Committee of the limited extent to which the specific size in money or the detailed nature in commodities can or should now be fixed, has greatly emphasized the relative importance of administrative and financing decisions at this stage. The Committee believes that, as a public rather than a governmental body, its recommendations should be concerned rather with the principles which underlie the questions of financing and administration than with detailed machinery. The sections dealing with these questions have been framed accordingly.

It must in conclusion be repeated that the Committee's decision not to formulate a program of European aid elaborated in every particular is conscious. This does not reflect any hesitation on the part of the Committee, but rather its sense of urgency as to the need for an immediate decision. Essentially the choice of the United States to aid or to refrain from aiding Europe should be made on the basis of such general principles as are laid out in the five basic questions which are posed above. The Committee presents its answers with the conviction that it is upon these questions that a plan for American economic aid to Europe must stand or fall.

II. The Interest of the United States in European Recovery

The people of the United States face a momentous decision. It is one that should be made only after the Administration has laid before them and their Congress all the available facts bearing on the critical world situation which it has so fully and frankly given to this Committee. The Committee has faith in the sound judgment of the people and of the Congress when they have learned the whole truth.

The question confronting the country is this: Does the United States have a vital interest in European recovery? The elements of this interest are three: Humanitarian, economic, political. They must be weighed in order to decide whether their sum is an American interest which is in fact vital.

The humanitarian appeal is presented by the spectacle of millions of Europeans for whom this winter will be one of cold and hunger. There is deeply rooted in the hearts of most Americans a fundamental human kindness, a will and a wish to give whatever is possible to those who are in dire need of help. Huge amounts of money and tremendous quantities of commodities, totaling many billions of dollars, have been made available by the people of the United States since VE-day to nations suffering from the destruction and dislocations of

the most terrible war in history. We, who as a nation are enjoying comparative luxury, cannot in good conscience do otherwise. To withhold our aid would be to violate every moral precept associated with our free government and free institutions.

This moral obligation does **not** mean blind, unlimited assistance to all who ask for it; nor does it mean that need must be the sole criterion. Aid in any form, public or private, always involves many practical considerations and limitations which temper its kind and quantity.

There is no evidence that Americans have lost their willingness to help the unfortunate. The Committee is completely confident that a demonstrated need by the European countries for the necessities of life such as food and coal will elicit a generous response in the hearts of our people. But there is a growing realization that even a country with the resources and productive capacity which we enjoy cannot continue to pour out its substance indefinitely without crippling its ability to keep its economic balance and to maintain its national security. Any plan of European aid that we undertake should therefore be a plan for European recovery, with the major objective of restoring that area to a self-supporting position and of bringing to an end the need for continued and indefinite assistance.

Such a comprehensive plan to aid Europe will be expensive. It will involve sacrifices but it may also be cheaper in the long run. The illusion that it would be thrifty to do nothing would be shattered if, by such a policy, the future existence or development of our economic and political institutions should be seriously jeopardized.

Our economic self-interest is closely related to the fate of Europe. American trade with Europe has always been a factor of paramount importance to the American economy. A progressive decline in the producing and buying power of 270,000,000 people in Western and Central Europe would have a powerful impact upon American prosperity. Moreover, prosperous conditions in Europe are essential to the maintenance of American trade in other parts of the world. For example, South Africa, Australia, New Zealand, Canada, and the non-tropical countries of Latin America obtain, by means of export surpluses to Europe, the funds with which to pay for their import surpluses from the United States. Thus a disintegration of the European economy would curtail the power of these countries to buy United States goods.

The deterioration of the European economy for lack of means to obtain essential imports would force European countries to resort to trade by government monopoly—not only for economic but for political ends. The United States would almost inevitably have to follow suit. The resulting system of state controls, at first relating to foreign trade, would soon have to be extended into the domestic economy to

an extent that would endanger the survival of the American system of free enterprise.

These formulations of the United States' humanitarian and economic interests in European recovery sufficiently indicate their importance. But it is United States interest of a third kind which overshadows the others, and with which any plan for the economic recovery of western Europe is most directly concerned.

This third and most important interest, though it may for simplicity be called political, is in fact very much broader. It stems from the realization that a European recovery program is an investment in the continued survival of a world economically stabilized and peacefully conducted, in which governments based on fundamental democratic principles can prosper, in which right, not might, prevails, and in which religious freedom, economic opportunity, and individual liberties are maintained and respected.

To state this aim recognizes that we are faced in the world today with two conflicting ideologies. The basic characteristics of each are well known. One is a system in which individual rights and liberties are emphasized, where they are protected by basic constitutional guarantees, where the state is the servant of the people. The opposing system is one where iron discipline by the state ruthlessly stamps out individual liberties and obliterates all opposition.

The first regards the strength of international relationships as resting on the maximum of free association—economically, personally, and culturally—between individuals in different countries; the foreigner, as well as the native, has a right to his private life and to private interests; and the exchange of such private interests across international borders is even welcomed as the surest guarantee of permanently peaceful and mature state relationships.

The opposing concept rests on the assumption that international life must be dominated by ideologies; that where ideologies differ, conflict is inevitable; and that so long as ideological uniformity has not been obtained, struggle must remain the keynote of international life. In these circumstances, it is clear that peace is only a military truce; and the national state continues to conduct itself as a fortress besieged by mortal enemies. The freedom of the individual in international life is largely lost and the structure of international dealings derives its solidity only from the iron discipline of the state and the determination of its leaders.

Should this country ever be forced by circumstance to turn from the first of these concepts of international life to the second, it would no longer be able to conduct domestic affairs according to the principles of individual liberty and tolerance which are traditional to it. The continuance of the American way of life and of thought, therefore,

requires that the peoples of the world understand the soundness of the first of these philosophies of international life.

The pattern of the United States' position in the world has been predicated for at least a century on the existence in Europe of a number of strong states committed by tradition and inclination to this outlook on international affairs, and on the exertion by these states of a powerful stabilizing influence in world society. Happily they have not been the only nations which have shared these feelings and aspirations; but they have certainly represented the greatest single concentration of state power associated with this outlook, and their role in world affairs has been so great as to represent one of the foundation stones of United States security.

But these countries of Western Europe cannot continue unaided to play this role. Their peoples are sorely dissatisfied with their present plight. If by democratic means they do not soon obtain an improvement in their affairs, they may be driven to turn in the opposite direction. Therein lies the strength of the Communist tactic: It wins by default when misery and chaos are great enough. That is why any program for the democratic rehabilitation of Western Europe must overcome not only the complex economic problems resulting from the ravages of war, but also the deliberate sabotage by the Communists who see in the continuance of misery and chaos their best chance for an ultimate victory.

Open ideological war has been declared already by the totalitarian nations and their satellites upon all other nations and peoples believing in individual liberty. It has been called a "cold war". The first major battle in the cold war is being fought now in Western Europe. It is cold only in the sense that guns are not smoking and bombs and guided missiles are not exploding. In every other respect the ideological war of the Communists is as ruthless and as determined a drive to achieve world domination as a hot war.

The military results of World War II have already put a large segment of Europe under the domination of the totalitarians. The cold war is now being fought for those portions of Europe and of Asia which have so far resisted this onslaught. In this struggle the police states have effective allies in every country beyond the iron curtain. Their allies are the indigenous Communist parties which have loyalty, not to the nations in which they live, but to the Kremlin. These well-disciplined forces have been stripped for action by the open acknowledgment that the Comintern is revived.

It is an historical fact that the sixteen Western European nations which participated in formulating the Paris report are nations which, like our own, have fostered and developed the concept that individual liberty and fundamental human rights are essential to domestic society and hold out the hope for peaceful world relationships. They are

among the nations which have joined in a genuine effort to make the ideals enumerated in the United Nations charter a reality. Economic recovery in Western Europe is an objective consistent with and essential to the attainment of these ideals.

The quick response of the Western European nations to Secretary Marshall's suggestion is an indication that they regard this economic recovery as necessary to the achievement of these ideals. It is likewise the most recent demonstration that by tradition and inclination Western Europe desires to maintain the democratic concepts of government. But tradition and inclination are not enough. We know that the democratic system must provide the basic necessities of life now, and that it must quickly rekindle the hope that by hard work a higher standard of living is attainable.

More than 200 million people live in the nations under consideration for aid from this country; among them are many of the world's most energetic and gifted peoples. Whatever we do, their own qualities will some day regain for them the measure of influence which they have always been able to exert in the modern world. But until that is done there can be no real balance in world affairs, and no real peace. And unless it is done soon we cannot be sure that their faith in the sort of international life we believe in will be fully maintained, and that their strength, once recovered, will be exerted for the achievement of what has been a common goal.

Therefore, the countries of Western Europe must be restored as rapidly as possible to a position in which they may retain full faith in the validity of their traditional approaches to world affairs, so that they can again exert their full influence and authority in international life.

Thus broadly the United States' political interest may be defined. An objective analysis of the situation points conclusively to the need for courageous constructive action to aid Western Europe, both for its sake and for our own enlightened self-interest.

We cannot have complete assurance that all objectives can be achieved with a planned recovery program. There are risks and pitfalls in whatever course of action we may take. But we must face the reality that dire consequences are almost certain if we fail to move decisively at this critical juncture in world affairs. The present situation contains far-reaching implications which indicate that a do-nothing policy cannot be considered as an alternative.

If the countries of middle-western and Mediterranean Europe sink under the burden of despair and become Communist, Scandinavia will fall into the same camp. The strategically and economically vital North African and middle-eastern areas will follow. This transfer of Western Europe, the second greatest industrial area in the world, and of the essential regions which must inevitably follow such a lead,

would radically change the American position. If it should prove that a weakened United Kingdom could not resist so powerful a current, then the shift would be cataclysmic.

The domestic consequences are such as no American could easily tolerate: The swift and complete conversion to a military footing which national security would require; the abrupt but necessary change in our relations with the rest of the Western Hemisphere; the immediate and sweeping limitation of our economic and political life, perhaps extending even to our very form of government.

In such prodigious terms is the interest of the United States in European recovery defined. The Committee is convinced that a sound program for Western European recovery should be formulated and adopted by the United States with the same boldness and determination, and the same confidence in the worthiness of the democratic cause, which characterized our action in World War II.

III. The European Recovery Problem

A. The Nature of the Problem

The present economic position of Western Europe, which defines the European recovery problem and must be the starting point of any recovery program, is ably analyzed in the report of the CEEC. The salient fact there presented is that Western Europe probably cannot survive the next four years, and certainly cannot recover, unless large dollar resources are made available to European governments in the form of public loans or grants, in addition to any such funds as may be secured through the private capital market. These funds are needed, of course, to finance imports into Western Europe from the Western Hemisphere.

In explaining this situation, it is well to begin by distinguishing those features of it that are abnormal from those that are normal. It cannot be repeated too often or emphasized too strongly that there is nothing abnormal about Western Europe's dependence upon heavy imports of food, feed, industrial raw materials, and even certain sorts of industrial products. This area is the second greatest center of industrial production in the world. It lives in large measure by processing. Europe's own natural resources support its steel and chemical industries and provide most of its fuel, but both European industry and European agriculture have long depended on imported resources and the population of Europe has long depended on imported food. Clearly, Europe cannot recover without heavy imports. What is abnormal about the situation is its current inability to pay for more than about half of what it needs.

The circumstances that explain this abnormal situation can be summarized as follows: (1) Whereas over-all production in some Euro-

pean countries has shown remarkable recovery, it is still true that Europe's total production, especially when Germany is taken into account, is well below prewar levels, with the critical item of coal a prime example. This retardation of Europe's production affects both its ability to export and its import needs. (2) Western Europe's import demands, especially against the American Continent, are abnormally large because it has been deprived of the Eastern "bread-basket" for food and because of wartime dislocation in the Orient. Western Europe's import demands are further enlarged because of its need for capital rehabilitation and development. (3) Europe has lost (in part temporarily but in part permanently) major sources of foreign exchange in the form of payments for services and return on foreign investments. (4) There has been a major shift in price relationships between industry and agriculture in favor of the latter. (5) There has been wholesale disruption of the entire framework of monetary exchange both within European countries and between those countries and the outside world.

For all of these reasons Western Europe needs both working and long term capital and the restoration of the kind of system which will allow individual men and women, and individual firms to get ahead with producing the right kind of goods in the right amounts. Neither of these needs can be disregarded. However, we wish to emphasize that the persistence of Europe's difficulties is much less due to physical destruction incurred during the war than to the disorganization of its economic life. The disorganization operates in a variety of ways to impair or destroy human incentives. The most pervading form that it takes is the loss of value of most Western European currencies. This has occurred, in part, because of the very great rise in prices, and, in part, because goods are rationed or not available. In Western Germany, the most disorganized area within Western Europe, and in the United Kingdom, where production is above prewar and where the administrative machinery of government operates with unimpaired effectiveness, price inflation is less important than the fact that consumption is determined by the availability of goods and by the size of rations rather than by money income. The incentive to earn a larger money income is gravely weakened by the impossibility of using it to buy goods. In a number of other continental countries where the black market is active, incentives are affected in other ways. Mistrust of both the internal and the external value of currency makes individuals reluctant to hold it. The "free" black market draws resources away from those sectors of the economy where price controls are effective. The classic example is the extensive feeding of grain to livestock in countries where there is an acute shortage of bread grain for the urban populations. Controls, scarcities, and suspicion of the in-

ternal values of currencies have operated together to interfere gravely with the processes of internal exchange of goods and services. The agricultural producer can most easily and surely increase his own real income by eating more of the food he grows and by using scarce grain to increase his capital in the form of livestock; as a result available supplies of food are badly distributed between town and country. The industrial worker can surely and easily increase his real income only by enjoying greater leisure, a circumstance which contributes most to the shortage of manpower and to the low productivity of labor in Western Europe today.

The weakening of incentives and the disruption of trade are closely related, however, to pervading physical scarcities referred to above as shortage of working capital. While it is true that monetary reform is a prime need of many European countries, such reform cannot be effected only by decreasing the supply of money. Money must become worth something in terms of available goods. Western Europe abounds with examples of economic vicious circles. If more food could be gotten into the Ruhr, more coal would be produced. If more coal could be supplied to nitrate plants, the additional fertilizer would augment the European food supply, which would greatly increase the productivity of labor in industry and coal mining. More coal would likewise make more steel available, which could be used in the production of mining equipment. That so many of Europe's problems take this form is evidence of the fact that stocks of goods are appallingly low. There are no physical reserves which can be used to initiate at one point an increase of production which would ramify widely. If the European economies are to continue to function and if recovery is to gain momentum, therefore, it will be necessary to bring into these economies food and other commodities from external sources.

The provision of immediately required necessities, however, is not enough. The objective of the European nations, an objective backed by the United States, is to become self-sustaining. If this is to be the case, not only must working capital be replenished, but there must be an effort to expand and renovate the European industrial and agricultural plant. This calls for capital equipment. Part of it is needed to make good arrears of depreciation and obsolescence. The war was a period of rapid capital consumption; plant and equipment were worked hard without adequate maintenance or replacement. Another part of it is needed to replace German facilities. Still another part of it is to permit an expansion of output above the highest levels achieved before the war. It seems likely that the European nations may have over-emphasized their needs in this direction, as

well as their ability to absorb capital goods. But the problem is nevertheless there, especially if we consider the longer-term future.

Although the short-run problem reduces to one of producing more goods for export (without too inflationary an effect upon domestic economies) it must not be lost sight of that a long-run problem of quite a different character will emerge as rapidly as the short-run problem is solved. At the present time, there is a world-wide scarcity of goods; world markets will absorb whatever Europe can export. Inevitably, however, as world recovery progresses, European nations will face competition in marketing their exports and they may encounter difficulties in using the proceeds of the sale of exports to the Eastern Hemisphere to pay for imports from the United States and the rest of the Western Hemisphere. American trade policy and American willingness to accept imports will, to an increasing degree, determine Europe's position. If Europe is to be able to pay its own way, we must find a means of allowing the rest of the world to balance its accounts with us.

B. The Elements of the Paris Program

In relation to the long run problem referred to above, the Paris program is essentially a "short-term" program dealing with the years 1948 through 1951. Any difficulty in finding markets is properly assumed away. The essential task set at Paris was to show how, given adequate aid from the United States, Western Europe could get on its feet in the next four years. Some harm has been done in describing the Paris document as a fixed "plan." It is not a fixed plan, first, because it is after all no more than a response to an American request for information and depends very largely on American decision, and secondly because no Western European government has such control over its economy that it can be made to perform like a marionette. In Europe, no less than in the United States, government authorities can propose; but only the people dispose. What the Paris report contains is first, a statement, partly explicit but partly only implicit, of the economic ends to be attained; second, a number of suggestions and statements of intent concerning the policies to be adopted as means to the attainment of these ends; and third, conditioning both the ends and the means, a guess as to Europe's capabilities, that is, what is physically possible.

The essence of the program is a large programmed increase of industrial and agricultural production above present levels and, in most cases, prewar levels. Although it is impossible to measure the goal for 1951 in terms of an over-all index of production, comparisons which may be made for a number of specific commodities are summarized in the following table of production indices for various commodities.

	Prewar ^a	1946	1951
Steel: ^b			
Participating countries.....	100	97	173
Western Germany ^c	100	14	49
Electric power output:			
Participating countries.....	100	135	204
Western Germany ^c	100	64	120
Coal and lignite:			
Participating countries.....	100	86	113
Western Germany ^c	100	52	95
Lumber:			
Participating countries.....	100	n. a.	92
Western Germany ^c	100	n. a.	115
Cereals:			
Participating countries.....	100	91	105
Western Germany ^c	100	60	85

^a 1938 except that for cereal production the base is the 1934-38 average.

^b Crude and semifinished steel; ingot or ingot equivalent.

^c Bizone, French zone, Saar.

It is apparent that the European governments believe industrial production can be pushed well beyond prewar levels but that agricultural and extractive industries, which depend more directly on basic resources, can only with the greatest efforts achieve their prewar output. The recognition by the European governments of the limitations on coal and food production determine, in important respects, their plans and expectations with regard to the direction of production and their need for imports. In order to sustain an over-all rise in basic power requirements, the program calls for a heavy increase in petroleum consumption and a more moderate one in hydro-electric power generation. In the field of agriculture, the countries are expected to end up with dietary levels somewhat lower than prewar, especially in meat and in fats and oils, the planned restoration of food production and imports being insufficient as of 1951 to offset population increases over prewar.

Related to the desired and expected expansion of production is a heavy program of capital development. During the period of four years the plan proposes that \$2 to \$3 billions be spent on iron and steel plant rehabilitation and expansion; 3.5 billion dollars for mining machinery and equipment; well over 1 billion dollars for petroleum refinery equipment and electric plant expansion totaling at least 5 billion dollars. Apparently 3 to 4 billion dollars of agricultural machinery is estimated to be required for domestic use, as well as a large quantity of rolling stock of all types. Finally, a heavy ship-building program is now in progress which will involve capital expenditures of some 3 billion dollars during the period of the program. These figures make no reference, of course, to projected expenditures on housing and most other types of construction or industrial plant and equipment for such consumer-goods industries as textiles and the leather industries. A very large proportion of the capital equipment

is expected to be produced in Europe and, presumably, financed by the participating countries and their nationals without any need for dollar exchange. However, it is indicated that the four-year program covers gross imports of equipment for industries programmed specifically by the Paris Committees in the amount of about 3.4 billion dollars together with imports of other machinery to the extent of 1.2 billion dollars.

The third element in the Paris program is an estimate of the consolidated balance of payments deficit of the sixteen participating countries and Western Germany with the United States, the rest of the Western Hemisphere, and the Eastern Hemisphere. The calculation of import requirements and export expectations is made on the assumption that production expands and capital development is undertaken in accordance with the program. Two important assumptions condition that estimate. First, it is assumed that balances which the European nations will be able to build up with other countries outside the Western Hemisphere can be applied against deficits incurred with the American Continent. Second, it is assumed that whereas the prices of Europe's imports have risen sharply in the past 2 years, they will decline after the year 1948. Table 1 fully summarizes the results of these calculations.

The end results are now familiar. The total aid asked amounts to \$19.6 billions. The deficit, however, is on a sharply decreasing scale. Whereas the sixteen participating nations and Western Germany will run a total deficit of \$8.3 billions, including a deficit of 8 billion dollars with the American Continent in 1948, this deficit should decline to 3.4 billion dollars in 1951 by which time Europe's favorable balance of payments with the rest of the world will reduce its over-all deficit to 1.6 billion dollars. These are the best estimates the participating nations could reach as to the extent to which Europe is currently unable to pay its own way. Whether or not we accept this European estimate, the order of magnitude of the assistance we furnish to produce European recovery must be based on a similar estimate of our resources to contribute not just to relief but to real rehabilitation.

Table 1.—Balance of Payments Summary for the 16 Participating Countries and Western Germany

[In millions of dollars]

	1948		
	U. S. A.	Other America	Other non-participating areas
A. Imports of Commodities Covered by Paris Technical Committees:			
Food, feeding stuffs, and fertilizer.....	1,432	1,856	1,937
Coal and other solid fuels.....	342		255
Petroleum products.....	1,512	(1)	(2)
Iron and steel products.....	370		43
Timber.....	96	170	253
Equipment:			
Agricultural machinery.....	370		n. a.
Mining machinery.....	80		n. a.
Electrical equipment.....	150		n. a.
Petroleum equipment.....	168		n. a.
Steel plant.....	100		n. a.
Inland transport equipment.....	203		n. a.
Timber equipment.....	10		n. a.
B. Other Imports:			
Machinery, n. e. s.....	3,287		n. a.
Unspecified.....	1,787	1,212	2,211
C. Total Imports.....	-5,927	-3,238	-4,699
D. Adjustment for Terms of Trade ¹.....	0	0	0
E. Exports.....	+848	+1,311	+4,297
F. Net Position on Invisible Account.....	-558	-16	+351
G. Balance of Payments (C+D+E+F).....	-5,637	-1,943	-18
H. Net Position of Dependent Territories.....	-455		-219
I. Deficit (G+H).....	-8,035		-237
J. Credits Assumed Available from International Bank or Other Sources.....		+920	
K. Uncovered Deficit.....		7,352	
TOTAL—1948-51			
A. Imports of Commodities Covered by Paris Technical Committees:			
Food, feeding stuffs, and fertilizer.....	5,910	7,807	9,732
Coal and other solid fuels.....	666		1,515
Petroleum products.....	2,187	(1)	(2)
Iron and steel products.....	1,292		146
Timber.....	351	621	1,417
Equipment:			
Agricultural machinery.....	1,188		n. s.
Mining machinery.....	220		n. s.
Electrical equipment.....	500		n. s.
Petroleum equipment.....	555		n. s.
Steel plant.....	400		n. s.
Inland transport equipment.....	490		n. s.
Timber equipment.....	32		n. s.
B. Other Imports:			
Machinery, n. e. s.....	1,148		n. s.
Unspecified.....	6,086	5,619	9,388
C. Total Imports.....	-21,025	-14,047	-22,108
D. Adjustment for Terms of Trade ¹.....	+1,486	+1,080	+1,768
E. Exports.....	+4,670	+7,626	+22,057
F. Net Position on Invisible Account.....	-1,583	+9	+2,039
G. Balance of Payments (C+D+E+F).....	-16,452	-5,332	+3,686
H. Net Position of Dependent Territories.....	-655		-882
I. Deficit (G+H).....	-22,439		+2,804
J. Credits Assumed Available from International Bank or Other Sources.....		+3,130	
K. Uncovered Deficit.....		16,505	

¹ Estimate of dollar cost of petroleum imports.

² Imports assumed to be covered by currencies of participating countries.

³ Partial estimate.

⁴ The Balance of Payments Committee of the Paris conference has assumed that the terms of trade for the participating countries will shift during the period, 1948-51. It has been assumed that, as compared with the price levels of July 1, 1947, prices of European imports will be reduced by 7.5 percent in 1949, by 10 percent in 1950, and by 12.5 percent in 1951 while the prices of European exports will not fall.

C. The Claims on Europe's Economic Resources

In advance of any attempt to determine how much aid the United States should give, certain comments are in order. The estimates of production and consumption and of their need for American aid drawn up by the sixteen countries at Paris were in part determined (as pointed out above) by the specific economic objectives the governments hoped to achieve. The effort to achieve these objectives give rise to competing claims on their countries' economic resources. One is to continue discharging their existing military and political obligations and performing the functions of government. A second is to maintain certain standards of living for their own peoples, in terms not only of current consumers goods but of housing, durable goods, and other forms of consumers capital as well. The third is to achieve rapid economic progress (increased production and productivity) through the creation and acquisition of capital equipment.

As to the first claim, there is one broad objective about which an American judgment can easily be made. Every decline in the political and economic power of the Western European nations imposes new burdens directly upon us. The United States has a clear and vital interest in the maintenance of independent centers of power in Western Europe. To reduce the cost of European recovery in dollars by limiting the economic resources required for military and political purposes would cost this nation many times what it saved, not merely in dollars but also in terms of security.

As to the standard of living set at Paris there is also no evidence that it is excessive in terms either of humanitarian interest or of political stability. If the Paris program should go through exactly as written, Europeans would eat less well in terms of calories and far less well in terms of variety in 1951 than they did in the prewar years. In almost all countries the per capita real incomes of the employed population would be lower. Comparison of planned European consumption with that of the United States, which is perhaps the best basis for humanitarian judgment, would show so great a differential that we can ill afford to make the accusation of over-comfortable living. All Europe hoped, however vainly, for an improvement in living standards after the war. In many cases its standards are already cut far too finely for political tranquility.

No such straightforward conclusion can be drawn about the rate of capital formation proposed by the various European nations. Considering physical destruction, accumulated wartime depreciation and obsolescence, the loss of foreign assets, the change in the price of imports, and the growth of population since 1939, an increase in production well above prewar levels is certainly required to make Europe self-sustaining at a reasonable standard of living. Europe plainly needs mining machinery, rolling stock, and agricultural machinery;

German steel capacity that is lost must be more than replaced. However, it is by no means certain that the European countries can "digest" the amount of new capital goods that the plan proposes to produce and import.

This goes back to the question of capabilities, of what is physically possible. Such massive economic innovations as the expansion proposed in steel capacity outside of Germany, the drastic shift from coal to petroleum as a basic source of energy, and the sweeping mechanization of agriculture cannot without grave and unnecessary strain be compressed into so short a time. Moreover, it is not necessarily true that rapid mechanization and rehabilitation are the only way or the quickest way to increase production and exports. One reason British coal output is still well below prewar is because the working force in the mines is much smaller. Mechanization and rehabilitation are probably the long run solution but a slightly slower pace may not cripple recovery. As to food production, agricultural machinery may be urgently needed to replace lost draft animals but the correlation between the wholesale mechanization of agriculture and an increase in the production of food on a limited acreage is not close.

A broader reason for careful scrutiny of the European proposals is that capital formation is inherently inflationary. To reach their goals in four years, the European nations propose, in effect, to engineer a postwar boom of gigantic proportions. Heavy domestic expenditures for capital goods by governments and private enterprises would, even in more settled conditions, produce full employment, high money incomes, and money demand for consumers goods. It means the diversion of workers from the production of goods for immediate consumption or for export to the making of goods that will not have any effect on output for several years. Thus, unless capital formation is financed out of real savings, that is out of real abstention by people from the purchase of food, clothing, etc., money that is not matched by a comparable supply of consumer goods is injected into the spending stream.

Before the war, few European countries could afford to devote more than 10 to 15 percent of their national incomes to such purposes; the aim of some postwar European plans has been to step up this rate to 20 percent or over. To the degree, of course, that the United States provides capital equipment for the European countries, it transfers the strain from their economies to our own. Where it can be shown, as in many cases it can, that such equipment really increases the ability of European nations to raise their production and their exports, the investment is worthwhile since it contributes to ultimate European self-sufficiency. But a slower pace might well turn out to be better from the standpoint of the European countries themselves. If the boom could be less intense, if the needed capital development could be

spread out over a longer period, the strain on the European economies would be reduced.

D. Policies

It is vitally important that the European nations do not overreach themselves if certain basic policies, wisely emphasized in the Paris report, are to be carried out. One such policy is that essential industries get clear priority over nonessential. A universal difficulty in obtaining spare parts, equipment, materials, and labor makes the enforcement of such priorities enormously more difficult. Much more significant, however, is the effect of too high a rate of investment on that policy to which all the nations in Paris agreed—namely, fiscal and monetary reform. The immediate purpose of such reform is to restore real internal purchasing power to European currencies. And this objective can be frustrated as effectively by over-rapid capital formation, whether public or private, as it can by persistent budgetary deficits. In carrying out their stated purpose to combat inflation, the European governments must be conservative in determining the rate of their own capital development.

Therefore, the policy issues raised by European capital development plans are inseparable from those that relate to fiscal and monetary policy in a more specific sense. The participating countries recognize in their report that internal fiscal reforms directed toward an early balancing of government budgets are indispensable to monetary and exchange stability. The Committee strongly confirms this conclusion.

So long as a government continues to sell I. O. U.'s to central banks (a paper-money printing process) to procure funds with which to finance its manifold requirements, the instability of the nation's finances will throttle the spirit of enterprise and prevent the essential expansion of production. The great difficulties with which many countries are confronted must be recognized, as well as the fact that an immediate balancing of budgets may be impracticable. It is insisted, however, that progress in this direction must be achieved in proportion to the expansion of production and real national income. The degree of progress attained must be a vital consideration in passing on continuing requests for aid.

Fiscal solvency also bears directly on another policy enunciated at Paris—namely, exchange stabilization. Inflation is bound to lead to the fall of the real external value of a nation's currency. Unless continuous depreciation of the official rate of exchange is contemplated, there will be a consequent adverse effect on exports and a great stimulus to imports. It is always a nice question whether exchange stabilization should precede or follow recovery. Long experience in many countries, including Europe, after the last war has taught that exchange stabilization is usually the prior requirement. As in 1924

exchange stabilization should be regarded as a foundation stone on which to rebuild shattered economic structures. It follows that the internal depreciation of currencies must be checked.

The Paris Committee also places emphasis on the removal of trade restrictions. The reduction of tariffs everywhere, including the United States, is undoubtedly a crying need. But tariff reductions are of little moment if nations have to maintain complicated exchange controls with the outside world, and in addition have to perpetuate internal price and other controls. Without passing judgment on the merits of socialization or of centralized planning, postwar experience proves that one of the greatest stimulants to European recovery would be a condition of affairs in which individuals and individual business firms could trade freely with each other. The individual plant manager (in a public or private enterprise) usually has a far better notion of what particular machine tool, for instance, is needed and can be afforded to increase production than an official, with the best will in the world, can possibly have. This does not mean that all restrictions can be lifted overnight. It does mean no mechanism has yet been devised by man which is as effective in producing goods in the right quantities as the market. But the *sine qua non* of the market is monetary stability and the removal not only of the signs but of the basic causes of inflation.

E. Emphasis as to Areas

One further aspect of the work of the Paris Committee deserves comment—namely the need for aid of individual countries and areas. The Paris Committee was primarily concerned with drawing up a consolidated European balance sheet of total import needs as set against exports and other income. However the Paris Committee submitted a table showing the possible individual balance of payments deficits of the sixteen participating nations and Western Germany with the American Continent for 1948. This table showed the deficit of the United Kingdom with the American Continent as 2.6 billion dollars, that of France as 1.7 billion dollars and that of Western Germany as 1.1 billion dollars. These figures do not reflect cuts made at Paris in the total program because of the unavailability of supplies or further cuts that may be made as the program is reconsidered. But they do indicate relative magnitudes as between countries and point up the fact that Britain, France, and Germany among them account for about 70 percent of the total aid proposed.

No useful purpose would be served in commenting on the needs of these countries in detail. Of the three it would seem that the problem of France offers the least difficulties for the long term. French import requirements were swelled in 1948 by the failure of crops last year, but in normal years France is tolerably self-sufficient in food. Moreover

French capital requirements set originally to absorb over 20 percent of the national income are being cut back in the interests of budgetary reform. Such reform is essential to French recovery.

Much more recalcitrant is the problem of the United Kingdom and of Western Germany. Coming on top of the loan of 3.75 billion dollars which the United States extended to Britain in July 1946, the need for further large-scale aid—amounting to approximately 30 percent of the Paris program for 1948—is of the utmost seriousness. A solvent Britain is a necessity to the United States especially as any future hope of freeing world trade depends on reaching an adjustment between the dollar and sterling areas. Nor should it ever be forgotten that the fundamental problem of Britain's balance of payments arises from the loss of "invisible income"—shipping and return on overseas investments—which occurred in the critical opening phase of the war before United States participation.

Owing to this loss the future of Britain depends very largely on the expansion of exports well above prewar levels. Measured in physical terms, which is the best measurement in view of changes in prices, Britain in 1946 was importing at only 69 percent of its prewar rate and exporting at 99 percent. In 1948 British imports will still be below prewar levels whereas the target for exports is well above 1938. Thus there has been net progress. But it is not the over-all figures that are of primary importance. The British industrial disaster of 1947 which set back the entire export program by months was caused by failure to get coal production up to prewar levels. This in turn was due not only to obsolescence of machinery but primarily to a drop in the number of miners. If Britain could export 30 million tons of coal today, as it did in the prewar years, the whole face of Europe would be changed. It is a sign of hope that to an increasing degree the British government and British opinion are realizing the necessity of cutting down on nonessential industries and concentrating on the essentials. Even so there is no blinking the fact that the restoration of a British external balance will be arduous. As in no other country Britain presents and will increasingly present the problem of translating earnings in "soft money" areas into "hard" money. The United States can furnish some of the tools, but Britain alone can finish the job.

In the opinion of the Committee, however, it is the policies pursued in Germany by our own Government which are of all-importance to the success of any aid program. If more British coal is essential, so is more German coal. If an attack on inflation is needed in other countries, it is ten times more needed in the area where the United States has direct governmental responsibility and which operates today virtually without any money system at all. It seems probable that, in view of the necessity for increasing German production, relatively

too little dollar aid has been assigned to the Bizone area. But if this aid is to be effective there must be a radical reform of policies which the United States has been sponsoring. Otherwise we may see recovery in other areas in Europe and the United States burdened with a never-ending German deficit.

We must begin with what we have in the West. This area has long been of critical importance to Europe. The manufacturing establishments consumed vast quantities of raw materials from surrounding countries as well as from overseas, and these supplies were paid for with a wide range of fabricated exports. Of particular importance were the capital goods which were exported to adjacent countries, thereby giving them the means with which to increase their productive efficiency and to expand standards of living. It cannot be too strongly emphasized that the producing and purchasing power of Germany, and, through Germany, the producing and purchasing power of all Central Europe, is indispensable to the recovery of Western Europe. In view of the great increase in population of Western Germany due to expulsion of Germans from the East, the level of production (in August, 51 percent of the 1936 level) is catastrophically low. It is the view of the Committee that a quick recovery of the Bizonal area, and in particular of the Ruhr, is of paramount importance to European recovery.

This brief reference to the special problems of France, England, and Germany leads logically to the mention of one further policy, clearly set forth at Paris, that must be adhered to if the progress of European recovery is not to be halted by stagnation in particular areas. That is the policy of granting appropriate priorities to areas of major importance. The policy proposed is merely one of refusing to allow sectional competition to interfere with the most effective use of resources. In this connection it cannot be stated too emphatically that there is no intention to suggest building up Germany at the expense of other industrial nations of Western Europe. However, when the granting of priority to any of the participating countries over Western Germany can be shown to have an adverse effect on production, then the priority should be denied. This is obviously a delicate problem. For instance, it has been stated that the retention within Germany of more Ruhr coal would reduce steel production in the neighboring participating countries about as much as it would increase German steel production. Plainly, if these facts are correct, no such shift should be made. As between steel production in Germany and equivalent steel production in France, the priority should go to the latter. However, if the retention of additional Ruhr coal in Western Germany could be directed to a revival of German engineering industry so that spare parts and replacements for German-built equipment in the surrounding countries could again be made available, there would be a

strong case for such a change in allocations. These are merely illustrations, and are not intended to convey any judgment about so technical and complex a matter as German coal allocations. They are intended only to drive home the point that where meeting certain needs of a particular country would seriously retard general recovery, the interests of the country must give way. For the most part priorities which are important to the revival of Europe are priorities for particular industries or for the production of particular end products. Even where these conflict with the concern of a government for a particular area, they must not be disregarded.

F. Summary of Essential Recovery Conditions

In the present disorganized state of Europe it is necessary to guard against both over-optimism and over-pessimism as to ultimate results. Due to understandable and laudable motives the Paris committee may have in some respects erred on the former side. The opposite danger, however, is that of giving insufficient recognition to the dynamic and cumulative character of a recovery, if it can once get well underway. It is the intricate interdependence of the parts of a complex industrial economy that makes the European recovery problem so difficult. It sometimes appears as if there were no one place where production can be increased until it has been previously increased somewhere else. But, by the same token, a recovery in basic industries will make possible a remarkably quick recovery elsewhere. The experience of the years immediately following World War I provides telling evidence in support of this conclusion. Western Europe was restored to economic health with great rapidity as soon as monetary disorders were brought under control.

It is the judgment of this Committee that European recovery can be rapid provided that the essential conditions determining effective aid are met. In summary these are:

(1) The central objective must always be to make Europe not independent of the rest of the world but self-sustaining with relation to the rest of the world.

(2) American aid should be on a decreasing scale. A permanent underwriting of European deficits by the United States Government cannot be contemplated. It is clear that as the aid program tapers off it will be imperative for the natural forces of private financing to resume their normal function and to restore the long standing relationships between European and United States enterprises.

(3) It should be realized that the conditions which the world confronts today are the very reverse of those obtaining in the thirties and call for very different policies. The participating countries, like most of the rest of the world, are in the grip of major inflation. Every added economic burden raises the pressure. The Committee has seen

no evidence that the participating countries are seeking too high a standard of living. However, it must be emphasized that the attempt to accomplish too much capital formation, public or private, too soon could defeat the purpose of the program.

(4) While Europe indubitably needs a large injection of working capital in the form of dollars, the consistent aim should be not only to accomplish recovery but to create the kind of national and international framework wherein such recovery can be sustained by the work and effort of individuals. Monetary and exchange stabilization, allowing for the gradual relaxation of hampering controls, are essentials to this end.

(5) If the above conditions can be fulfilled, the United States should contribute generously but wisely to the program set forth at Paris. The actual magnitude of the contribution must depend on a more detailed analysis of Europe's specific needs and the United States' specific capacities, which will be presented in the following section of this report.

IV. Requirements for and Availabilities of Specific Goods

A. The Significance of the Analysis

The data which serve as a base for an analysis of European requirements are those developed by the participating countries at the Paris Conference. Such defects as exist in the plan produced at Paris result rather from the nature and magnitude of the European recovery problem, than from any fault of the nations' Paris representatives. Those defects nevertheless make it necessary to attach a number of qualifications to any judgments of a plan for European recovery.

Restoring and maintaining European equilibrium requires not only the recovery of production in the participating countries but also economic recovery in other areas—the Far East, for example. It is ultimately dependent on the achievement of a stable pattern of world production and world trade. The program developed at Paris, therefore, plainly cannot be and does not purport to be a definite answer to the problem of attaining European equilibrium.

The Paris program, of which the validity and the execution are considered in this report, is essentially a series of estimates of economic probabilities in various fields, both in Europe and elsewhere, which in turn have served as the basis for fixing certain economic targets, judged to be reasonable and attainable, at which the program is aimed. Neither the Paris program nor any commentary on it should be regarded as a detailed blueprint in which the ultimate success of full European recovery by 1952 is in any way guaranteed.

The complex inter-relationships of the various parts of the European program and of the several participating countries necessarily

mean that the specific goals of such a plan should be subjected to periodic re-appraisal. Seeking to bring together the ambitious production aims of the several countries and their import requirements from the rest of the world in order to produce a detailed balance-sheet for such a period as 1948-51 would be a wholly specious enterprise. As a single example, the progressive increases in economic activity for which the Paris program hopes, depend heavily on the importation of food. Without it, the production goals simply will not be met. And yet the availability of food, even for a period less remote than 1951, is impossible to foresee. Setting up a time-table for European recovery which would be both specific and would also cover an extended period would be an adventure in prophecy rather than a task of economic planning. It must therefore be realized that the economic judgments which are presented in the following sections will inevitably have to be modified in size and altered as to timing in the light of changing conditions during the period of European recovery.

B. The Nature of the Analysis

A full examination of the Paris program in relation to requirements for American aid would call, as the first step, for an effort to appraise and to judge the validity of the levels of consumption and production which are proposed in the Paris report, and of the basic objectives which underlie them. It has not been possible to do a thorough job of appraising European capabilities. There are considerable differences of quality and completeness in the evidence available in the several fields, and these differences have inevitably affected the nature of the results. Thus, in the cases of coal and of food, the quantity and quality of the available material have made possible judgments which can be put forward with some degree of confidence. In other cases, such as most of the manufactured goods and electric power, the qualifications attaching to the analysis are very much greater. The following sections, in which the individual commodities and commodity groups are considered, are as thorough as the available statistics and time permitted, but their necessarily uneven quality must be borne in mind. Revision of the European requests has in some cases been upward, and in some cases downward; in each instance on the basis of the most careful analysis that was possible.

The second stage in such an analysis should be an examination of the inter-relationships and consistency of the various production goals. Here such problems as the adequacy of coal production to sustain the proposed level of economic activity, the relation of fertilizer production and use to agricultural production, the impact on machinery and equipment output of revised goals for steel production, and many others must be considered. It has been possible at this time to express only the roughest sort of judgments on the consistency of the inter-related goals of the European recovery effort.

The third stage, that of examining American and world supply availabilities, has been, by reason of more complete statistics and the cooperation of domestic industry, a somewhat easier task; the appraisal which is here presented, and the indications of the limitations which availabilities will impose on the levels of export are more dependable than other parts of the analysis.

These estimates of European net import requirements and of world availabilities have formed the basis for an over-all appraisal of the Paris Conference proposals, and have resulted in judgments suggesting modifications both as to size and as to timing, of the European program and of the plans of the several countries.

C. Food and Agriculture

The Committee finds it necessary to treat the food supply problem in two distinct stages: (1) the critical 1947-48 period during which supplies in the Northern Hemisphere must come from crops already harvested, and (2) the longer-range 1948-51 period during which policies may be carried out to increase the production and availability of essential foods not only in the participating countries and Western Germany but elsewhere throughout the world.

1. *The Immediate Situation.*—In its interim report the Committee recognized the extremely critical food situation which faces Europe during the current year. The factor responsible for intensification of the food crisis in Europe this year is weather. An extremely severe winter killed an unusually large percentage of the winter wheat crop. This was followed by a summer drought which greatly reduced yields of spring planted crops. In consequence bread grain production in the participating countries is 5 or 6 million tons¹ below last year and more than 10 million tons below prewar. Production of coarse grains, potatoes, and milk is also below last year's level.

Unless imports are increased above last year, economic recovery in several countries will be seriously retarded and rations of nonfarm consumers will not be sufficient for heavy work. Some urban groups in these countries will be at or below the 2,000-calorie level. Such a level means low energy and productivity and is conducive to political unrest. The effects of such a diet continued month after weary month can scarcely be comprehended by those of us who are consuming or exceeding the average United States diet of 3,250 calories per day.

The current emergency demands the fullest possible utilization of food resources in Europe, in the United States, and in other food-exporting countries of the world. In Europe, food collections from farms must be pushed to the limit. Prices and other policies should

¹ In this discussion quantities are given in long tons of 2,240 pounds or metric tons of 2,204.6 pounds. The difference between these units is negligible particularly when dealing with rounded estimates.

be adjusted as rapidly as possible to curtail grain feeding of hogs and poultry and provide additional grain for human use. It is impractical to expect that more than a part of the drop in food production can be offset by reduced livestock feeding, since hog and poultry numbers in several countries are already 30 to 50 percent below prewar. In addition, the extreme shortages of consumers' goods and the general distrust of the currency in some countries continue to discourage sales by farmers. However, the Committee feels that part of the impact of the current food shortage can and must be directed upon the livestock population in order that nonfarm consumers may have food enough for productive work.

Exportable supplies of food in countries other than the United States may be as much as 5 million tons larger this year than last. However, it seems probable that half of this increase will go to other countries, leaving only 2 to 3 million tons of the increase physically available to the CEEC countries and Western Germany. Even this amount cannot actually be imported unless means of financing the movement are found. In recent months several countries have been forced to reject part of their allocations of Cuban sugar due to lack of dollar exchange. The dollar crisis now facing France and Italy threatens to curtail their imports of even the most basic foodstuff—grain—unless immediate steps are taken to break the exchange bottleneck.

The Committee feels that the urgency of the current food crisis in Europe cannot be overemphasized. For a time it may prove to be doubly advantageous for the United States to assist the participating countries to purchase food in areas outside this country, to avoid adding to inflationary pressures that are pushing prices upward here, and to enable the needy countries to buy in the lowest markets. Failure to meet urgent food needs now from any source where food is available on reasonable terms will certainly delay and possibly prevent even approximate realization of the longer-term goals of economic recovery in Europe.

The present emergency also imposes a heavy responsibility upon the United States to maximize exports from domestic supplies of grains and other foods. To that end the President has called for nation-wide conservation and has created the Citizens Food Committee to conduct an extensive campaign among all users of grain and grain products to conserve grain and provide increased amounts for shipment overseas. We urge wholehearted support for this voluntary conservation program—the spirit as well as the letter. At the same time, the Committee believes that the Congress should be asked to restore to the executive agencies the authority to take certain additional measures if they are found to be necessary to back up the voluntary program. The responsible administrative agencies should recom-

mend to the President and the Congress the restoration of those limited powers which they conclude are necessary if the program is to be carried out with minimum adverse effects upon the domestic economy. The food distribution regulations applied by the Secretary of Agriculture from time to time to processors and distributors of a few of the most important agricultural commodities illustrate the nature of the measures the committee has in mind for which legislative authority no longer exists but which may become necessary to prevent waste and assure that essential needs are fully met.

During recent weeks the Department of Agriculture has procured substantial quantities of grain for export. There is reason to believe that the current price differential between wheat and corn, coupled with the voluntary efforts of farmers to limit wheat feeding, will reduce the quantity of wheat fed to livestock considerably below earlier estimates. Although there is no reason for complacency, the Committee feels that real progress has been made and that substantially larger quantities of grain will be acquired for export than had first been considered feasible. Whether a quantity equal to last year's total can safely and wisely be exported will depend on winter wheat crop prospects next spring. If the outlook is for yields below average, it may be advisable to hold back some wheat to cover vital requirements in the next crop year. This possibility underlines the necessity for rigidly screening United States food exports to all areas in accordance with the principles of greatest need and maximum contribution to world economic recovery.

Although this Committee has given greatest emphasis to grains, it is highly important that other products which are reasonable in cost and in relatively adequate supply be included in the export program. Where commodities of higher cost are accumulated as a result of price support activities, it would be appropriate to subsidize their export on a basis more nearly competitive with grain in terms of cost per calories.

Finally, the Committee is informed that exports of nitrogen fertilizer from the United States have been lagging badly and that the quantities allocated to Europe may not be exported in time for application to 1948 crops. The Committee urges that every effort be made to speed up shipments of nitrogen fertilizer with a view to exporting the full IEFC allocation from commercial channels by the end of February. It may not be feasible at this late date to increase commercial exports above the present allocation but we urge that this possibility be seriously considered by the fertilizer industry and by the administrative agencies concerned with the export program.

2. *The 1948-51 Situation.*—Before the war most of the participating countries and Western Germany were heavily dependent upon imported food and feed. Many of these were (and are) highly urbanized

and industrialized. Only a fourth of the total population of this group of countries lived on farms, and in the United Kingdom little more than 5 percent. Over a third of total calories consumed were based on imports, including shipments from colonial areas. During 1934-38, yearly imports averaged about 25 million tons of grain,² 3.2 million tons of fats and oils, 3.7 million tons of sugar, 1.7 million tons of meat, and considerable quantities of other foods.

Of the 25 million tons of imported grain, about 11 millions were used for livestock feed. In addition, 5 million tons of imported oilcake, including the oilcake equivalent of imported oilseeds, were so used. These imports of coarse grains and oilcake make up more than a third of total supplies of concentrate feeds in the participating countries and Western Germany, and a highly developed livestock industry was based upon them.

The war seriously disrupted food production not only in Europe but in many of the exporting areas which had formerly supplied Europe. As a consequence both of war and drought, food production in some of the participating countries in 1945-46 was a third lower than before the war. At the same time imports of most foods other than bread grains were very substantially below prewar. Both production and imports of most foods increased during 1946-47 but recovery was severely setback in 1947-48 by the succession of winter-kill and drought already noted.

The general objective reflected in the CEEC report is to return as rapidly as possibly to approximately the prewar agricultural pattern. Significant changes are contemplated in individual countries, but this generalization applies broadly to the participating countries as a group.

The food production plans of the participating countries and Western Germany are summarized in the following table:

Table 2.—Production of Basic Foodstuffs in the Participating Countries and Western Germany

[In millions of metric tons]

Item	1934-38 average	1946-47	1947-48	1948-49	1949-50	1950-51
Wheat and rye.....	34.0	28.3	21.4	30.2	32.7	34.0
All cereals.....	64.5	55.6	48.9	60.3	63.4	65.8
Oils and fats.....	2.8	2.0	2.2	2.5	2.7	2.9
Sugar.....	3.4	3.3	3.4	3.6	3.7	3.9
Meat.....	9.0	5.9	6.0	6.5	7.2	8.1
Milk.....	71.5	55.7	57.0	61.9	65.9	73.4

* Including butter. Source: Committee of European Economic Cooperation, vol. 2, p. 26, table 2.

This production program must be viewed against the background of an 11 percent increase in population from 1934-38 to 1950-51.

² Including net grain movements from Eastern to Western Germany.

Since total production is estimated at about prewar levels, per capita production in 1950-51 is implicitly assumed to be some 10 percent below prewar—probably 20 percent in Western Germany and about 5 percent in the other countries taken as a group.

Net import requirements as stated in the CEEC summary report on Food and Agriculture³ are not simply totals of the figures submitted by individual countries. In the case of several basic foodstuffs these totals obviously exceeded supplies which were likely to become available. Consequently, the group totals were scaled down—grain imports in particular from about 30 million down to 25 million tons. Estimates of oilcake requirements were reduced 1.5 million tons in each year, and smaller reductions were made for other commodities during all or part of the 1948-51 period.

The CEEC report makes no statement as to the calorie levels implied in the production and import programs. In general, the figures submitted by individual countries would point to calorie levels equal to or above prewar. However, the scaled-down estimates of import availabilities, coupled with the estimates of indigenous production, imply either a lower average calorie intake than before the war or an increase in calories from cereals to offset decreases in other foods. If livestock were made the residual claimant on grain and if relatively high flour extraction rates were maintained, calorie levels in 1950-51 could equal the prewar average in most countries. However, the composition of the average diet in most countries would be inferior to the prewar constitution, with perhaps the sharpest reduction in meat.

a. Grain.—The livestock program of the CEEC report is shown in the following table:

Table 3.—Livestock Numbers in the Participating Countries and Western Germany
[In millions]

Item	1934-38 average	1946-47	1947-48	1948-49	1949-50	1950-51
Cattle *.....	75.0	74.9	74.8	76.6	78.4	80.4
Hogs.....	41.1	26.1	25.7	28.2	32.3	37.1
Sheep.....	106.3	100.6	97.5	103.5	106.9	109.5
Horses.....	13.4	12.4	12.4	12.2	12.1	11.9
Poultry.....	538.1	432.9	459.4	508.1	571.2	611.5

* Including milk cows. Source: Committee of European Economic Cooperation, vol. 2, pp. 64-48.

By 1950-51 the total amount of feed grains and oilcake required to support this program would be fully as great as actual utilization before the war. Very roughly, the planned increase in cattle and poultry numbers in countries other than Western Germany might require 5 million tons more grain and oilcake than before the war if prewar rates

³ Vol. 2, p. 45, table 18.

of feed consumption per animal unit were restored. On the other hand, the indicated numbers of cattle, hogs and poultry in Western Germany as of 1950-51—about 10, 30, and 40 percent respectively below prewar—would require perhaps 3 million tons less grain than prewar.

The livestock program has already suffered a temporary setback as a result of severe drought during the summer and early fall. The CEEC has issued an addendum to the original report⁴ which recognizes this condition. In response to the intensified grain shortage several of the participating countries are planning increased acreages of bread grains for 1948, and livestock numbers are being reduced by the pressure of limited grain and forage supplies. For the immediate future this reduction is helpful rather than otherwise, as it tends to release grain for food use.

In view of the present critical shortage of grain throughout the world, the Committee feels that much greater emphasis must be given during the next two years to grains for human consumption than is implied in the original CEEC figures in order to insure food supplies and rebuild reserves to a safer level. After this has been accomplished the expansion of livestock can be safely undertaken as increased feed grain supplies become available from indigenous production or from other countries. The Committee is not prepared to say that the livestock production estimates cannot be achieved by 1950-51. However, it feels that very favorable circumstances will be needed for their achievement by that time.

On the basis of preliminary analysis, the Committee feels that even the scaled-down estimates of import requirements for grain—25 million tons a year—will be very difficult to meet. The CEEC hopes to obtain 9 to 10 million tons of grain a year from the United States. During 1946-47, with total United States grain exports (the largest in history) of roughly 15 million tons, the participating countries and Western Germany got something like 9 million tons. If weather during the next three years is about average for both wheat and corn, the United States might be able to export 10 million tons of grain (about 370 million bushels wheat equivalent) to all destinations but the entire quantity would not be available to Europe. The CEEC also expects 8 to 10 million tons of grain yearly from other American countries, mainly Argentina and Canada. This amount is probably within their capacity to supply. Most of the balance is expected to come from “the anticipated reappearance of traditional exportable surpluses in the U. S. S. R. and Eastern Europe.”⁵

The correctness of this last assumption is a vital element in the

⁴ Now printed as a preface to the Food and Agriculture section of the CEEC report, vol. 1, pp. 17-19.

⁵ CEEC, vol. 2, p. 46.

recovery program outlined by the participating countries and Western Germany. Before the war the flow of grain from Eastern to Western Europe, including movements from Eastern to Western Germany, average roughly 5 million tons a year. This Committee believes that grain shipments from Eastern Europe during the next three or four years will increase from current low levels but will not reach the prewar rate within the period of the Marshall Plan. On balance, the outlook is that grain imports from all sources will be below even the scaled-down import estimates. Certainly the United States cannot be depended on to export 9 or 10 million tons of grain annually to the CEEC countries.

As a possible offset, it may be that European crop yields for the later years are estimated too conservatively. If the increased applications of fertilizer called for in the production plan are realized, they should lead by 1950-51 to a significant increase in grain production over prewar and to similar improvements in other crops and forage. This assumes, of course, that by 1950-51 other factor affecting production, including the morale of the farm population, will be as favorable as before the war. This condition should be largely realized if the over-all recovery program is successful.

b. Fats and Oils.—The recovery program in Europe also depends to a very large extent upon the resumption of prewar exports of foods other than grains from established producing areas. In the case of fats and oils an energetic recovery program, such as was conducted so successfully in the Philippines, should produce similar results in certain other areas. Recovery in several areas is hampered by lack of incentive goods. In the Netherlands Indies and Manchuria, it is further complicated by political factors. The rehabilitation of traditional sources of fats and oils offers one of the quickest and most important methods of increasing food supplies available to Europe. If dollars are needed to implement recovery in the supplying areas it must be remembered that such dollars may be even more productive on a continuing basis than the same amount spent for food shipments from the United States.

It should be noted that increased population and increased incomes in some of the former supplying areas have materially increased their domestic consumption. In order to provide prewar supplies for Europe it will be necessary to increase production in some of these areas considerably above prewar and also to develop new supplies in other areas which have some underutilized land resources.

c. Rice.—Europe is not a large consumer of rice. Nevertheless, the recovery of rice production in the exporting countries of Southeast Asia will make an extremely important contribution to European food needs. Before the war, Burma, French Indochina, and Siam exported an average of 5.7 million tons of milled rice yearly. During

1947, exports from these countries are expected to total less than 1.5 million tons. The rice deficit areas of the Far East have in consequence made large demands upon world supplies of wheat and coarse grains. If rice exports from southeast Asia were restored to prewar level, exports of wheat and coarse grains to the Far East might be reduced from 1946-47 levels by two or three million tons, with corresponding increases in supplies available to Europe. Further gains could be made if Korea and Formosa were also restored to a rice-exporting basis.

Although rice acreage and production in Burma and Siam are increasing, unsettled political conditions in French Indochina are expected to cause a further decline in production below last year. The need for a political settlement in French Indochina, and for production and trade goods in all three countries is on the same footing as the need for recovery in the major surplus areas for fats and oils. The Committee recommends that the Government do everything in its power to stimulate this recovery process. Part of the responsibility for effecting political settlements in French Indochina and the Netherlands Indies rests with two of the participating countries and this question is certainly germane to the over-all recovery program for these countries.

d. Sugar.—Before the war, sugar production in the Philippines, Formosa, and Java averaged 3.4 million tons. Last year production in these areas totaled only 0.1 million tons. Recovery is proceeding in the Philippines and production may approach prewar levels by 1951. However, little progress is being made in Java and Formosa. If further analysis of world grain availabilities points to very substantial shortfalls below requirements, it may become important for the participating countries and Western Germany to increase sugar consumption at least to prewar per capita levels. In this situation, recovery of sugar production in Java would assume almost the same urgency as recovery in fats and oils.

e. Other Foods.—It has been noted above that with weather equal to the 1937-46 average, United States grain exports to all destinations might average about 10 million tons a year during the period of the Marshall Plan.

Exports of foods other than grains could in general be maintained at or near 1946-47 levels and could in some cases be increased if necessary financial and distributive arrangements can be worked out. Such commodities as dried fruits, dry peas, dry beans, and nonfat dry milk solids could be made available in larger quantities than last year.

The CEEC requirements of food and feed from the United States have not been spelled out in detail except for the figure of 9 to 10 million tons of grain. Since some United States grain will go to other

areas, it seems likely that our grain exports to Europe will average significantly lower than the CEEC estimate over the 1947-51 period, even assuming a rapid recovery of rice production in the Far East. It is understood that the CEEC estimates of dollar cost also assume a substantially larger quantity of meat from the United States than is likely to be available. This item was relatively small in tonnage but large in dollar value. Judging from over-all dollar figures, stated requirements for other foods in the aggregate are well within our ability to supply.

f. Fertilizer.—The Committee wishes to preface its discussion of fertilizer and agricultural machinery by underlining a basic point which has not been sufficiently emphasized in the preceding pages. During 1946-47 the United States exported nearly 15 million tons of grain. This figure exceeded total grain exports from all other countries combined. This year, with the largest wheat crop in our history but below-average production of corn, we may be able to approach this record again. In both of these years weather has been unusually favorable to wheat production, especially in the Great Plains where two-thirds of our wheat is grown and where wheat yields are highly variable from year to year.

Average weather during 1948-51 would mean United States grain exports of about 10 million rather than 15 million tons a year. However, there is a strong possibility that weather during one or more of the years immediately ahead will be unfavorable to wheat. During 1934-36 as a result of drought the United States was on a net import basis not only for wheat but for corn as well. With world grain stocks now at exceedingly low levels, the effect of such a development would be extremely serious. Hence the greatest urgency attaches to the task of restoring food production in Europe and in areas upon which Europe depended before the war. The abnormal dependence of food deficit countries throughout the world upon exports from the United States must be reduced as rapidly as possible.

One of the most important factors in accomplishing this would be increased utilization of chemical fertilizers in Europe. The level of fertilizer use proposed by the participating countries in 1950-51 is about twice the prewar average. There is no question but that this is a desirable goal and that such quantities of fertilizer can be effectively used. The planned increase in phosphates presents no apparent problem. The potash goals require substantial imports from Eastern Germany but the quantities involved as of 1950-51 should be within the capacity of that area to supply.

The most urgent problems exist with respect to nitrogen fertilizers. During 1946-47 some nitrogen capacity in Europe was underutilized due to lack of coal. Information received from the CEEC countries at the end of October indicates that this situation has now been cor-

rected in practically all of the countries and that little further increase in production can be obtained solely through supplying additional coal. A number of plants were damaged or dismantled during the war. In view of the importance of nitrogen to crop production, these facilities should be rehabilitated without delay except where security considerations are clearly involved. Steel and equipment for this purpose should be given the highest priority.

Revised figures received from the CEEC countries in the past few days indicate substantial net import requirements for nitrogen in 1947-48, 1948-49, and 1949-50—440,000, 297,000 and 149,000 tons respectively. The stated requirement figure for 1947-48 is far in excess of prospective imports, though not in excess of needs. As a minimum program, the Committee recommends that the full 1947-48 commercial allocation be shipped in time for application to 1948 crops. The Committee believes that nitrogen exports in 1948-49 can and should be increased above this year's level. United States nitrogen output could be increased by fuller utilization of synthetic ammonia capacity owned by the Government, and by construction of facilities required at these plants to permit the production of finished nitrogen fertilizer materials in integrated operations. Sustained production from these facilities will be of benefit to United States farmers long after the Marshall Plan period.

Nitrogen exports from the United States can make a highly significant contribution to food production during the next two or three years. However, the probable dollar value of these nitrogen exports is only about 1 percent of the estimated value of United States exports of food.

g. Farm machinery.—The participating countries have outlined an ambitious program of farm mechanization. Stated import requirements for tractors and farm machinery from the United States total roughly 1 billion dollars for the 4-year period. This is at least four times the recent annual rate of United States exports to these countries. The production goals of the participating countries are equally ambitious. Output of medium and light tractors, already more than double the prewar average, is scheduled to be more than ten times the prewar figure by 1951. This would cover the stated domestic requirements and leave almost half the production for export. Proposed output of all other farm equipment and parts in 1950-51 is more than three times the 1946-47 rate.

Farm mechanization can be beneficial in several ways. It permits more thorough preparation of the soil, and more timely planting, cultivation and harvesting. It compensates for labor shortages or releases labor for nonfarm employment. It would be difficult, however, to establish any precise quantitative relationship between further

mechanization and the resulting increase in food production. The replacement of draft animals by tractors, of course, releases land for the production of human food, but a very rough calculation indicates that if the stated tractor requirements were fully met, less than 4 percent of the arable land would be so released.

Without questioning the ultimate desirability of farm mechanization, the Committee doubts, on the basis of available information, whether it is feasible to accomplish this degree of mechanization within the four-year period. On the basis of estimates supplied by the principal United States exporters of agricultural machinery, it appears that the amount of machinery which could actually be sold and paid for in local currencies in the CEEC countries in 1948 is substantially less than the stated import requirement, although the estimated demand is more than double the actual rate of sales during 1947.

In summary, the amount of American-produced equipment which these countries could use to full advantage over the next four years appears to be substantially less than their stated requirements but more than they are now receiving from us. The problem is to balance this need against the demands of United State farmers which are also well in excess of the productive capacity of the industry. The Committee suggests that plans be made to furnish farm equipment and parts at twice the recent annual rate of our exports to these countries. This would be only about 6 percent of our total production. Given the probable increase in United States production and the possible decline in exports to other areas, it would not prevent a small increase in the quantities available to domestic farmers. However, the Committee believes that it would give the European farmers a preferred position for about all the imported new farm equipment they could use effectively in furthering their food production program. If it develops that equipment in excess of these estimates can be used efficiently for substantially increased food production, it would be economy to supply it. An investigation and report by a competent United States technical mission in full cooperation with agricultural experts in the CEEC countries would be helpful in this decision.

It may be even more important for this country to assist and encourage the expansion of farm machinery production in the participating countries, and especially production of repair parts for existing machinery. Specific instances have been called to our attention where output of European implement plants has been curtailed for lack of small quantities of special steel products or partly fabricated parts from the United States. The export of such materials would be a much smaller drain on our economy than the corresponding quantities of finished machinery.

D. Iron and Steel and Steel-Plant Equipment

1. *European steel production.*—In the last pre-war year the sixteen participating nations produced 20 million short tons of finished steel. Productive capacity, as indicated by output in the most active pre-war years, aggregated 28 million tons. Western Germany produced another 17 million tons.

This output was sufficient to supply their steel-consuming industries and provide net exports of over 2 million tons, thereby bettering their balance of payments position.

Outside of Western Germany there was a small net increase in steel-making capacity during the war. Some capacity was damaged. Major repairs had to be deferred, proper maintenance neglected, and modernization schemes postponed. These arrears have not been entirely made up but practically all plant has been brought back to workable condition.

The fuel position, however, is drastically different from what it was before the war. The present shortages of coal and metallurgical grades of coke, particularly the latter, are the greatest obstacle to increased steel production. These shortages stem from the heavy reduction in German exports of such fuel to neighboring iron and steel producing countries and the almost complete cessation of such exports from the United Kingdom.

In order to save fuel, iron and steel producers have resorted to various expedients, such as the use of high grade imported ores and the use of a high proportion of scrap. These expedients have in turn aggravated other supply problems.

In spite of these difficulties, the finished steel output of the sixteen nations in 1947 will be above 1938, but well below the maximum output possible if fuel and other materials were readily available.

If Western Germany is included, however, steel output is still far below the pre-war level. That area, which accounted for almost half the total in 1938 is now producing at only about one-sixth of the 1938 rate. This is due to the actual damage or removal of plants, the shortage of fuel, and the policy of curtailing German heavy industry.

The result is that steel consuming industries are seriously curtailed for lack of this essential raw material. Net exports of finished steel are only a fraction of the pre-war rate, thereby aggravating the problem of paying for essential imports.

2. *Planned expansion.*—The CEEC report sets up an objective of a 40-percent increase in finished steel output of the sixteen countries, and somewhat more for Western Germany, between 1947 and 1948. The plans for accomplishing this objective include (a) increased supplies of coking coal from the United States, (b) utilization of presently unused coke oven capacity in Western Germany, (c) further attempts

to economize on fuel through use of high grades ores, etc., and (d) further restrictions on use of hard coke for other than metallurgical purposes. The report frankly recognizes that this objective may not be achieved. It would bring aggregate production, including Western Germany, almost equal to 1938.

The target for 1951 is 44 million tons. This includes 10 million tons for Western Germany, in line with the revised level-of-industry agreement. It also involves considerable expansion, modernization, and rounding out of steel making facilities in the other countries. It makes a satisfactory solution of the coke problem even more uncertain than in 1948.

As programmed in the CEEÇ report this 1951 output would permit net exports well above the 1938 rate as well as a large increase in domestic consumption. Excluding Western Germany, the 1951 consumption would be almost double that of 1948 and over 60 percent above 1947.

It would be difficult, if not impossible, to calculate just how far short of this goal production could fall without seriously endangering European recovery. Elsewhere in this report the Committee has indicated its reservations as to both the necessity and the feasibility of capital expansion programs which would use some of this steel. There are also doubts as to the ability of the steel consuming industries to expand their output sufficiently within four years to use the additional steel. It seems clear, however, that a major increase in European steel production is highly desirable.

The imports required from the United States in order to carry out this program, as stated in the CEEC report, include (a) steel mill equipment, (b) steel making materials, notably coke and scrap, (c) semi-finished steel for further processing in European mills, and (d) some finished steel. The Committee's conclusions with regard to those requirements stem from its understanding of our domestic situation as well as its evaluation of the European steel program.

3. *Demands on United States production.*—United States producers will turn out over 62 million short tons of finished steel in 1947. While far above the best pre-war year, this has been insufficient to meet the present needs of the steel consuming industries. Shortage of steel has not prevented a high national output, with relatively full employment of available labor, but it has seriously restricted production of some goods. Automobiles are a notable example.

This situation is paralleled in the export market. In the first half of 1947, a little less than 10 percent of the output of finished steel was exported. An almost equivalent quantity went into products made from steel which were shipped abroad. In addition there were some exports of crude and semi-finished steel. The export demand is far in

excess of this supply. Actual shipments have been limited by export controls as well as by the competition of domestic buyers.

The shortage is general but much more serious in some items than in others. Sheet, strip, and pipe are very tight while certain alloy steels are relatively easy to obtain.

The industry is now in process of adding about 3 million tons of sheet mill capacity. This expansion, which should be completed before the end of 1948, compares with an estimated total output of 18 million tons of sheet and strip in 1947. The resulting increase in sheet and strip output, however, would be merely at the expense of other products if there were not a corresponding increase in steel ingots.

4. *Limitations on United States output.*—In 1947 the United States will produce over 84 million tons of steel ingots. In spite of excess demand, this is 7 million tons less than the rated capacity of steel making furnaces.

A number of factors account for this difference. Wartime alloy steel requirements resulted in expansion of electric furnaces beyond peacetime needs. Carbon steels can be produced in these furnaces only at excessive cost. Consumer preference for open hearth steel for many uses limits the use of Bessemer converters. A minor portion of the facilities built during the war have not been returned to peacetime production because of insufficient supply of reasonably accessible raw materials or specialized design of plants and equipment. Some work stoppages have occurred.

Fundamentally, however, the bottleneck has not been any of these factors. It has been the supply of pig iron and scrap. Any attempt to increase steel production to meet both domestic and foreign needs hinges on obtaining additional quantities of these materials.

The serious shortage of scrap iron and steel reflects (a) the large prewar exports of scrap, (b) the high domestic scrap consumption during and since the war, (c) the postponed scrapping of items made from iron and steel because of unavailability of replacements, and (d) the large wartime exports of steel products with the resulting loss of potential scrap. The normal solution to this shortage would be the use of a higher proportion of pig iron. The supply of pig iron, however, is also limited.

The estimated pig iron production of 58 million tons in 1947 is 6 million tons short of the rated capacity of blast furnaces. Some furnaces are not being used at all because of local coke shortages or for other reasons. Coal strikes temporarily halted other plants, thereby reducing pig iron output by an estimated 900,000 tons in the first eight months of 1947. More important, however, is the decline in the quality of coking coal which makes it difficult to operate furnaces at rated capacity.

The ash content of coking coals has risen from about 6 percent in prewar years to 12 percent in 1947. In addition, the wider use of machinery in mining has introduced more slate in the coal. The higher ash and lower carbon content increased coke consumption per ton of pig iron from approximately 1,760 pounds in 1939 to 1,868 pounds in 1946. This reduces the output of blast furnaces and also increases the shortage of coke.

The steel plant expansion program now under way is planned to eliminate some of these bottlenecks as well as to modernize and round out facilities. It is expected that the resulting expansion of steel ingot capacity before the end of 1948 will be about 2.5 million tons or 3 percent. A more than proportionate expansion of 3 million tons in blast furnaces and a still more than proportionate increase in coke ovens is also under way.

Use of oxygen in both blast furnaces and steel making furnaces will contribute part of the planned increase in capacity of those facilities. Companies which have proceeded far enough with experiments to indicate results hope for a 10 to 15 percent increase in blast furnace production by this means. A report prepared by an expert for the Committee comments, however, that "what has been accomplished during the past year in the experimental use of oxygen in steel making has been a determination of, rather than a solution of, the problems involved in this application." A number of factors, including the need for major changes in related facilities, will operate to restrict and delay the increase in capacity from this source.

The scheduled increase in steel making capacity, and more particularly the expansion of sheet and strip mills, will provide some additional supplies for both domestic use and export. As the production and distribution pipe lines are filled, more steel may flow through in the form of finished goods to the ultimate purchaser. A growing shortage of gold and dollar exchange may limit the purchases of non-European countries. There is no assurance, however, that United States output in the near future will be adequate to meet all the demands upon it.

The question of whether the longer-term domestic and foreign demand for steel can be met without a major expansion of steel capacity over and above that now in progress is one that the Committee is in no position to determine at this time and is beyond its scope. Consequently, no position is taken on this matter. Any expansion not now planned would contribute very little to steel supplies in the next 2 years when European requirements are largest. Moreover, such an expansion would itself absorb steel while in progress and would make it more difficult for the European nations to obtain from us the steel making equipment they need. On the other hand, further expansion of steel capacity may be so important in the light of longer-range

considerations as to justify the use of scarce items for this purpose during the next 2 years.

5. *Steel-making equipment.*—The stated European requirements for steel, steel-making materials and steel-making equipment must be considered in the light of (a) their significance and urgency relative to European recovery, and (b) our own needs and the limitations on increasing supplies to meet those needs in the near future.

The CEEC report includes an important requirement of 400 million dollars worth of iron and steel plant equipment spread over the 4 years. This is part of a total program, which would appear to cost some 2 or 3 billion dollars, apparently designed to round out and modernize as well as expand facilities. It includes everything from ore mining to steel finishing mills. Most of the import requirement would have to be obtained from the United States.

The Committee is not in a position to judge the urgency and feasibility of the individual projects for which this equipment is intended. In a few instances their nature and location raise doubts in this regard. Presumably, however, the individual projects would be subject to the careful scrutiny of the agency administering the plan.

In the absence of any detailed information as to the nature of the equipment required and when it will be needed, it is equally difficult to reach a conclusion as to availability without serious interference with production in the United States. We are informed, however, that 15 to 20 percent of the 400 million dollars is already on order. Much of the balance would not be needed until 1950 or 1951.

While no final judgment as to either urgency or availability can be stated at this time, the Committee attaches great importance to the requirement for equipment. Well conceived projects for the expansion and modernization of the European steel industry outside of Western Germany would undoubtedly help to make the participating countries self-sustaining, whereas shipments of steel or steel-making materials would have their main effect only during the period of the program. For this reason the Committee places a high priority on the equipment requirement.

6. *Scrap.*—With regard to iron and steel scrap the Committee takes a contrary position. The European import requirement, rising from 1.7 million short tons in 1948 to 2.5 million tons in 1951, is stated by the CEEC to be a minimum on the optimistic assumption that adequate coke supplies will be available.

The Committee is not convinced, however, that failure to meet the stated requirement would cripple the European steel program. There is reason to believe that European supplies of scrap are larger than was assumed in the Paris report. If not, the plans to compensate for shortages of both coke and pig iron by a high ratio of scrap may have to be modified.

Scrap is in acutely short supply in the United States. Exports would have the effect of reducing steel production here below the rate which would otherwise be possible. The Committee recommends that no scrap be exported from the United States but that, in cooperation with the participating countries, a survey be undertaken immediately to determine how European scrap requirements can be met from other sources.

7. *Metallurgical coke*.—The availability of coking coal from the United States to meet European requirements is discussed in the following section on fuel and power.

8. *Semifinished steel*.—Semifinished steel is required mainly in the United Kingdom and in Italy, both of which countries have historically been importers of such products. Analysis of the European steel program indicates that, if the requirement could be met, there would be substantial exports of finished steel from the participating countries collectively, and specifically from the United Kingdom, to nonparticipating countries. It appears, therefore, that if semifinished products were not supplied by the United States in the quantities needed, one effect might be, and probably would be, to reduce exports of finished steel products (especially from the United Kingdom) below the levels envisaged in the Paris report. This would lessen the capacity of the European countries to earn dollars during the period of the program but need not seriously impair the revival of production in steel consuming industries.

It must be recognized, however, that complete elimination of shipments of semifinished products would have other more serious effects. In the first place, it is stated that the United Kingdom must maintain some exports of finished steel products to non-participating countries in order to insure the physical availability of essential imports. Consequently, a part of the impact of a refusal to supply any semifinished products from here would fall upon British domestic consumption of steel. In the second place, only a small proportion of the semifinished products required by Italy is balanced by projected exports of finished products.

However, the export of semifinished steel products would have serious adverse effects on the United States economy. It would contribute to the general shortage of finished steel mill products. It might have a drastic effect on the smaller nonintegrated steel producers. Most serious of all, it would further deplete the critically low United States scrap supply. Under the circumstances, it is believed that only a part of the stated requirements can be met through additional exports from the United States.

The Committee does not believe, however, that the situation will turn out to be as serious as this conclusion implies. For one thing, it is believed that the real requirements, as they are more closely studied

in the process of administering the program, will prove to be lower than the stated requirements in the Paris report. For another thing, the facts given above suggest that some part of even the real requirements can be left uncovered without serious effect on European recovery, so long as the resulting loss of dollar earnings during the period of the program is duly taken into account. Finally, it may be possible to increase the supply of semifinished steel products for Europe in ways not related to the over-all size of United States exports. One possibility that should be considered is that of increasing shipments to Europe to the extent of any decline in shipments to other destinations. Another is that of supplying more semifinished products from Germany than presently planned. Consequently, the Committee believes it will be possible to work out a solution whereby quantities which, after careful examination, may be demonstrated to be necessary for European recovery will be supplied.

9. *Finished steel*.—The import requirement of steel sheets and strip, as given by the CEEC, is over 700 thousand short tons in 1948 which is four times our recent rate of exports to those countries. In view of the extreme shortage of these items, and the resulting restrictions on our own steel consuming industries, the urgency of this requirement should be subject to careful scrutiny. It is, however, less than 4 percent of our output of sheet and strip and only a fraction of the anticipated increase in United States production. The feasibility of meeting the requirement is also enhanced by the possible decline in non-European exports.

With the assumed expansion of the participating countries' sheet mills this requirement declines so that they plan to be net exporters by 1951.

The tin plate requirement is more than double our recent exports and it continues over the 4-year period. Here again there is need for further justification of its urgency in the light of our own domestic needs.

The 1948 requirement for all other finished steel, however, is less than half our recent shipments and the participating countries propose to be net exporters by 1950. This requirement may be understated if their assumptions as to their own production are too optimistic. In any event it should not be a serious drain on our resources.

E. Fuel and Power

Fuel and power rank high among the inter-dependent key commodities and services upon which the European recovery program is based. Europe's essential need to recover its prewar supplies of energy and to increase them progressively in order to raise the level of productivity of European workers is clearly defined by comparing

the present consumption of fuel and power with United States use. At the present time in the United States the per capita consumption of fuel and power is four times as great as the combined consumption in the countries participating in the recovery program; the prewar ratio was 2.5 to 1. Before the war four-fifths of the power consumed in the participating countries and Western Germany was derived directly or indirectly from coal. Although these countries anticipate over the next 4 years a substantial increase in the use of petroleum products and the development of new hydro-electric capacity, the basic source of power will continue to be coal.

1. *Coal*.—Despite reconstruction requirements which make European coal needs greater than prewar, coal output from mines in Northwestern Europe and Great Britain is currently substantially below prewar rates, largely due to a lack of skilled labor, acute food and housing shortages, deficiencies in technical development, and the necessity for plant replacement and modernization. With due consideration of these basic difficulties the participating countries have outlined a combined coal production program which, even under the most optimum conditions, conceivably may fall short of the tonnages anticipated. The balance between production and requirements is to be offset by imports from nonparticipating countries and the CEEC has estimated a total of 86 million metric tons⁶ will be required from the United States over the next 4 years. In terms of total tonnage the United States coal industry is capable of meeting these European requirements in addition to fulfilling domestic demands for coal. United States coal reserves, including all grades from anthracite to lignite (2,556 billion net tons) will last about 2,000 years at the current rate of consumption and with present mining methods, and will not be adversely affected by the export of coal to Europe in the quantities indicated.

At current production rates, the total 1947 coal output in the United States will approximate 657 million net tons, or about 4 percent below the all-time peak of 684 million tons reached in 1944. Total potential capacity for both anthracite and bituminous coal output in the United States is approximately 700 million tons. Production is currently being limited, however, by the lack of adequate supply of open-top coal cars on the railroads. About 85 percent of all coal mined is transported by rail from the mines to consuming areas. The lack of carrier facilities is limiting the number of loading days and in many instances is preventing full-time mine operation. Coal is not stored in large quantities at the mines, and when transportation facilities are inadequate for shipment of all available coal, production is curtailed. Unless action is taken by the railroad management and/or Government to (1) repair some of the worn equipment being retired; (2) restrict

⁶ Metric ton=2,204 pounds; gross ton=2,240 pounds; net ton=2,000 pounds.

less essential uses of open-top cars, and (3) establish a revised system of car allocation on the basis of sustained productive ability of each individual mine, the tonnages of coal available for export will be restricted, shipments will be erratic, and the European schedule of requirements for United States coal will not be met.

Total consumption of coal in the United States and Canada for 1947 is estimated at 612 million net tons. It is further estimated that total annual requirements through 1951 by the United States and Canada for United States coal will probably not exceed 610 million net tons of all types. United States and Canadian requirements (during the period of the Marshall Plan) are therefore substantially below the total productive capabilities of the American coal industry.

Up to the end of World War II, United States coal exports were small in proportion to its coal production. Since that time, however, Western European countries have been acquiring coal in increasingly larger quantities. Total overseas exports in 1947 will probably reach 48.3 million net tons. This figure is well below the total coal loading capacity of United States port facilities, which is approximately 5,685,120 net tons (5,076,000 gross tons) per month or about 68 million net tons (61 million gross tons) per year. Domestic port capacity will not be a limiting factor in the exportation of United States coal to meet European requirements.

The present heavy demand for quality coal, created by the general high level of industrial activity and selective buying by exporters, has boosted the prices of some high grade fuels and resulted in the payment of premiums in some instances by foreign purchasers. In general, the exportation of coal to Europe will contribute to the maintenance of the sellers market in the coal industry, but it is believed that this future export market during the years 1948-51 will not materially alter the present market conditions.

2. *Coal-mining machinery.*—The realization of European coal production goals in the period 1948-51 is important in that these goals form the basis for establishing the magnitude of United States aid through coal exports. Among the many essential and interrelated factors which have a significant bearing on the achievement of these goals is that of an adequate supply of coal-mining machinery.

During the years 1948-51 the sixteen participating countries and Western Germany plan to manufacture approximately 97 percent of the mining machinery and equipment requirements within their own sphere. The CEEC has requested that the United States provide special equipment not manufactured in Europe. The original requirement on the United States stated by the CEEC was 220 million dollars. It is probable that the European countries can ultimately use this volume of coal mining machinery from the United States. However,

reports from the participating countries to the European coal organization subsequent to the CEEC meetings indicate that some of these requirements can be postponed beyond 1951. Consequently, the Committee believes that 140 million dollars of coal mining machinery would be sufficient to meet the most urgent European requirements (including those of Western Germany) during the 4-year period of the recovery program. Exports at this level would meet about 4 percent of total European requirements as stated in the CEEC report. Data as to the types, sizes, units, and quantities of machinery, equipment, and supplies required from the United States are not at present available and it is therefore most difficult to state at this time whether this segment of the recovery program can be wholly or partially fulfilled. Current United States output of mining machinery is limited by shortages of steel, other materials, and components, and supply is subject to heavy domestic demand. Some items are approaching an easier supply but others such as steel, rubber conveyor belting, bearings, and electrical motors and control equipment remain tight. The large domestic requirements reflect in part the wartime accrual of replacements, and the desire of operators to modernize production facilities. Increasing exports of equipment means, therefore, spreading the large backlog of domestic demands over a longer period of time.

The vital need for mining equipment and supplies to maintain present European coal production and sustain the increased output planned cannot be overlooked, however, and it is therefore recommended that material aid be extended to the maximum limits possible without jeopardizing the supply of mining machinery needed to maintain a healthy domestic coal industry. Emphasis could well be placed on the export of materials for fabrication into mining machinery and equipment within the 16 participating countries and Western Germany. It is apparent that before increased production of machinery can be accomplished in Western Germany today, in 1948, or any future year, sufficient raw materials in certain categories must be imported from the United States.

3. *Petroleum*.—Next to coal, petroleum is the most important source of energy for the European recovery program. The increased use of fuel oil as a consequence of the coal shortage, together with the increasing demands for petroleum products resulting from mechanization of agriculture, expansion of industry, and growth of road transport, emphasize the importance of petroleum, especially in light of the fact that natural petroleum resources within the territories of the participating countries are small and indigenous production cannot be quickly or substantially increased.

World production of crude oil in 1946 was approximately 392 million tons. Over 63 percent of the total was produced in the United States, 19 percent in other Western Hemisphere countries, 9 percent

in the Middle East, 6 percent in the USSR and 3 percent in all other areas, including Europe.

From this supply total requirements of all European countries except the U. S. S. R. in 1946 were about 44 million tons. Of these requirements about 60 percent were supplied from the Caribbean and Middle East, 20 percent from the United States, and 20 percent from European production.

The CEEC has outlined petroleum requirements for the participating countries during the period 1948-51. Total petroleum requirements of all CEEC countries in 1948 are estimated at 59,542,000 tons as compared with 36,224,000 tons in 1938. By 1951 requirements are expected to rise to nearly 77,000,000 tons.

Petroleum output in the CEEC countries, except for Germany and Austria, has been small and will probably be less than 5 percent of the total requirements over the period 1948-51. Thus the bulk of requirements must be imported from nonparticipating countries. Approximately 45 percent of the total requirements must be secured from dollar sources (American companies). Based on July 1, 1947, f. o. b. prices the total value of oil from dollar sources is \$2,460,838,000 over the four-year period.

At the present time world petroleum supplies are inadequate to meet world needs. Even in the United States demand exceeds supply and imports of petroleum are about equal to the level of exports in volume terms. It is extremely unlikely, therefore, that the European petroleum requirements as indicated in the CEEC report can be met in full within the period 1948-51. During the next few years it is expected that there will be a large expansion in the availability of crude oil from Middle East fields. At the same time, a corresponding expansion of refining capacity and transportation facilities must be made. The expectation is that these developments will ultimately make possible the fulfillment of European petroleum requirements but with a lag of at least one or two years behind the rate projected by the CEEC.

Exports of petroleum and its products to countries participating in the recovery program cannot be considered a drain on United States petroleum reserves, because the domestic industry is producing all the petroleum which can be effectively recovered with present equipment and would not produce less if exports declined. United States petroleum reserves have been estimated by the American Petroleum Institute at approximately 22 billion barrels at the end of 1946. This represents an increase of 17 billion barrels over the first reserve estimate made in 1922 by the United States Geological Survey and the American Association of Petroleum Geologists. Continued expansion of domestic oil reserves seems certain. Substantial quantities of oil will probably be found in the continental shelf area bordering

the United States. Furthermore, future revision and extension of reserves in existing fields are expected to add to the domestic supply.

Refinery capacity in the United States is being operated at over 90 percent of capacity. Most idle capacity is obsolete and poorly located so that any substantial increase in domestic refinery production will require capacity expansions currently being retarded by the general shortage of such equipment

Maintenance of an even flow of petroleum and petroleum products from producer to markets is presently aggravated by shortages of tankers, tank cars, and pipe lines to carry the unprecedented volumes now in demand in the United States.

United States crude oil production in 1947 is estimated at 5,068,000 barrels per day. It is probable that the 1947 production represents the present maximum efficient rate and therefore it is unlikely that domestic output will increase over the next four years. Imports of fuel oils and crude petroleum must be expanded in order to meet the very high domestic demand for petroleum and petroleum products which is anticipated by 1951.

4. *Petroleum equipment.*—The CEEC report contemplates a considerable expansion in petroleum processing capacity in Europe which calls for large quantities of new petroleum equipment. The fulfillment of European recovery objectives depends largely on the availability of new equipment for the production and distribution of crude oil and finished products. Some of this equipment is needed in the CEEC countries themselves. Most of it, however, is needed for the expansion of production, refining, and transportation capacities of British and American petroleum companies in the Near East and other areas.

The total volume of petroleum equipment required from 1948 to 1951 by oil companies owned by CEEC nationals and operating within CEEC countries and elsewhere is 1.9 billion dollars. This estimate does not include the requirements of United States-owned companies even within the CEEC countries themselves. It is expected that the CEEC countries will produce 1.3 billion dollars of this total. This leaves a balance of almost 600 million dollars of petroleum equipment to be supplied by the United States.

It is probable that the total equipment requirement stated by the CEEC report, plus projected expansion of petroleum capacity by other countries, including the United States, exceed the world capacity to produce petroleum equipment. Thus it is extremely unlikely that the United States can export as much equipment as is requested. Furthermore, CEEC expectations concerning European equipment production seem unrealistically high. However, in light of the importance of petroleum equipment to the European recovery program, every effort should be made to extend a maximum amount of aid as

long as the requirements of the American petroleum industry are not seriously prejudiced thereby.

5. *Electric power*.—Consumption of electricity increased in Europe during the war period, but was not accompanied by a corresponding increase in generating capacity. A continued growth in consumption is expected which will reach a level in 1951 about 80 percent above that of 1938. In order to provide for this anticipated expansion of electrical power requirements, the annual rate of growth of generating capacity will, according to CEEC estimates, have to be nearly four times the rate in 1937–38. The expansion of generating capacity, as programmed by the participating nations, will probably fall short of estimated requirements in 1951. It is, however, an exceedingly ambitious program for the next four years. The planned additions, ranging from 4.7 million kilowatts in 1948 to 5.9 millions in 1951, compare with an estimated 1.8 millions in 1947 and 1.5 millions in 1938.

Power development plans for at least the major participating countries had been prepared by competent engineers before the Marshall Program was proposed. The European representatives report that in most instances the plans for specific projects are completed and orders for critical machinery placed. In general there is little reason to question the soundness of the program or its ultimate desirability. However, the consensus of those who are informed on European capacity to produce electric equipment is that it may well take six or seven years instead of four.

Almost all of the necessary equipment for the 5-billion-dollar “national” program, to add over 21 million kilowatts of capacity, is expected to be produced within the participating countries. The CEEC anticipates that 300 million dollars of special equipment will have to be obtained from the United States. The latter figure includes such diverse elements as valves, machine tools, and construction equipment. Only a small part would be electric equipment and apparatus.

In addition to the large “national” program there is a small “international” program to cost about 300 million dollars and provide another 2.3 million kilowatts. It is proposed that the United States provide all of the equipment amounting to about two-thirds of the total cost of this program.

Output of electrical generating, transmission, and distribution equipment in this country is far above the pre-war level. Generating equipment output apparently is close to capacity but, with additional supplies of silicon steel, output of transformers and related equipment could be increased substantially. Industry opinion is that it will take years to catch up with domestic demand. Even with some further increase in output of equipment it is apparent that any large increase in exports to meet European requirements would have to be at the expense of domestic customers. The effect would be to postpone

an expansion of electrical power capacity in this country with the possibility of temporary shortages of power in some areas.

However, the reported European requirements of electrical generating, transmission and distribution equipment from the United States in 1948 and 1949 are so small that they will not create any major difficulty. Generating and distribution equipment required in the last 2 years of the program—or possibly not until later—bulk somewhat larger relative to the capacity of United States equipment producers. The total stated requirements are roughly one-fifth of the current annual rate of outlays for equipment by United States utilities. It should be possible, however, to meet these requirements without serious inconvenience to electric power consumers in this country if domestic equipment manufacturers will make allowances for such requirements in the formulation of production programs for 1950 and 1951.

F. Transportation

1. *Introduction: The Problem.*—The transportation problems raised by a European recovery program turn chiefly on the answer to three series of questions: First, can the United States transportation system handle the aid program requested by the CEEC without interference with essential domestic transportation? Second, what will be the impact on our merchant marine of shipping such a program overseas? What should be our attitude with respect to the foreign shipbuilding program proposed by the Paris countries, and its relation to the surplus tonnage of war-built vessels in our own fleet? Third, what inland transportation equipment does Europe really need and how much can we safely and wisely supply? What can the Paris countries and the bizonal authorities do to make the best use of Europe's inland transport system?

It can be assumed that no probable aid program will do more than maintain the high level of exports achieved during the first half of 1947. The burden on United States transport and the requirements for shipping will therefore be no higher than they have been, and probably not as high.

2. *The United States transport system.*—Broadly speaking it is concluded that if certain steps are taken there is no reason why a foreign aid program should interfere seriously with the ability of the transportation system to handle the needs of the United States domestic economy. Insofar as there is a problem, it is a railroad problem. Our ports, our inland waterways, our trucking facilities and our highways are in general adequate to deal with any demands likely to be made upon them. Furthermore, insofar as there is a railroad problem, it is a problem of freight car supply, both box and open-top. Other railroad facilities will not be seriously strained.

During October this year more cars of revenue freight were loaded than at any time since 1930, though nearly 25 percent fewer cars were available than at that time. This record performance was not sufficient to meet promptly every request for railroad transportation, but except for coal it can be said that all urgent and essential transportation needs were filled. Thus the job the railroads will be called upon to do is no greater than the job they have been doing in recent weeks. If equipment can at the least be maintained they can meet this challenge as they have met earlier challenges.

Whether there is a foreign aid program or not, however, there are two danger spots that will have to be rather carefully watched to prevent them from threatening transportation efficiency. These are the supply of boxcars, vital to the movement of export grain, and the supply of open-top cars on which the domestic as well as the export coal movement depends.

a. Boxcars.—Boxcars are tight now because boxcar ownership has been declining for several years in the face of a rapidly mounting volume of traffic. This year's bumper wheat crop has put an unusually heavy strain on boxcars which was especially apparent during September and October when car demands are at their peak. Improvements in car handling have made it possible to meet this peak load without a crisis this year. But the margin is slim. There is a limit to what can be done with fewer and fewer cars. Advantage must be taken of the breathing spell which the slackening demand of the next few months should afford to strengthen our boxcar position so that we will be in a position to meet whatever demands may develop next fall with some insurance against contingencies.

b. Open-top cars.—Shortages of open-top equipment have been a factor actually limiting coal production in the United States in recent weeks. Export targets for Europe have had to be cut by 1.5 million tons for November, for instance, because of car shortages. These result partly from a continuing decline in the open-top car population, and partly from increasing demands for these cars for hauling commodities other than coal such as ore, construction materials, and the like. These other demands will increase next year rather than diminish. Hence, if the export coal program is to be met without jeopardizing the domestic economy the downward trend in railroad ownership of these cars must be reversed, and even better utilization must be made of the cars we now have. The present stringency in open tops is serious. Nonetheless, it is possible with vigorous action on the part of car builders, railroad, and shippers to secure enough cars by next year to do both the export job and the essential domestic jobs. As in box cars we are at the point of peak demand in October and early November. By this time next year we can put ourselves in a position to handle next year's peak ore effectively.

c. Car production.—If these two tight spots are to be prevented from developing into crippling bottlenecks, vigorous action must be taken on two fronts. The first of these is car production. The existing target of 10,000 new cars per month is well below the combined capacity of the car builders and the railroad shops. This target has not been even approximately achieved as yet. Even if achieved, it would be inadequate to increase quickly enough the available supply of railroad freight equipment in this country. In addition some cars for export to Europe are badly needed if a transport breakdown there is not to render the balance of the aid program fruitless.

The transportation situation requires that the car production target be raised to a minimum of 14,000 cars per month. If experience indicates that even higher output is at all possible, the target should be raised further. Efforts are now being made by the steel companies and the car builders to arrange for the balanced flow of steel necessary to bring car production up to the target. These efforts must be pressed with the utmost vigor. If adequate steel cannot be supplied to the car builders in any other way it must be done by allocation. If the car builders are unable to make efficient use of the steel delivered to them, ways must be found to correct the situation. There are few programs more urgent for this country or for Europe than the rehabilitation of transport to insure the carriage of freight and allow a margin of safety for contingencies.

d. Car utilization.—Even if the car production program reaches the higher targets proposed above in the near future the expansion in our freight car population will be painfully slow. Continued vigilance is necessary over the utilization of our existing pool of cars if difficulties are to be avoided. As suggested above, the record to date has been encouraging. But by continued special efforts the Committee believes that still more work can be got out of existing equipment. This is at least as much a matter for procuring agencies, shippers, and consignees, as it is for the railroads themselves. Timid and spasmodic procurement of grain, for example, can result in a highly uneconomic use of cars. The five day week in industry generally has increased loading and discharge time over weekends. Special incentives for overtime to expedite car turnaround may be necessary.

e. Controls.—No special transportation agency or new control legislation seems to be required in connection with the foreign aid program. Existing controls are administered for the most part by the permanent transportation agencies such as the ICC and AAR. The special expediting that is needed to keep continuing pressure on all concerned for efficient car utilization can be much more effectively exercised through these agencies than through any complex administrative superstructure. Whatever agency is set up to administer the foreign aid program must have a keen recognition of the importance of transportation to

the plan as a whole, and must stand ready to take action, formally or informally, to coordinate procurement, transport, and shipping and to clear up particular difficulties as they develop with the help and co-operation of the railroad agencies. However, any attempt to formalize such arrangements in special legislation would, we feel, be likely to impede rather than to encourage efficient use of cars.

3. *Ocean shipping—a. Dry-cargo ships.*—There is no shortage of dry-cargo ships to carry any world commerce that is likely to develop under an aid program for the next several years, but the tanker position may become quite critical by 1951 if appropriate action is not taken.

In the face of a present world surplus of dry-cargo tonnage the sixteen nations represented at Paris have indicated their intention to build some 15.5 million deadweight tons of shipping in the next four years. This will require very considerable quantities of steel and other materials in short supply as well as a good deal of labor. At a time when steel for urgently needed inland transport equipment—to mention but one item among many—is very scarce, the wisdom of a ship-building program as large as that proposed seems to us open to serious question. The Paris countries defend the program on the ground that the types of vessels currently in surplus are not suitable for the purposes for which their new construction is intended. This is undoubtedly true in part, but in an emergency period like the present they perhaps could manage with some tonnage not ideally suited to their purposes in the interests of conserving resources for the production of items which, from a world point of view, are more desperately needed.

The United States Government has in its possession hundreds of ships that are not now being used and that will never be needed by our merchant marine under the most optimistic assumptions about its future. At present under the sales policy of the Maritime Commission very few additional vessels from this war-built surplus are being offered to foreign countries. This policy should be changed to permit foreign sales whenever we are satisfied that they will be accompanied by commensurate reductions in European construction programs. On the other hand, further sales of dry-cargo ships abroad should not be made when such sales, instead of substituting for foreign construction, will merely add to the foreseeable future surplus of tonnage. The United States needs an active merchant marine for national defense, and we must not create conditions in which that merchant marine cannot survive.

Whatever transfers may be arranged under the above conditions, a considerable amount of shipping will remain under the ownership of the United States Government. In order for this tonnage to continue to be available for the carriage of essential cargoes of coal,

grain, and other commodities, it is important that Congress should extend the authority of the Maritime Commission to bareboat charter these vessels at least one more year beyond the present deadline of March 1, 1948.

To promote maximum flexibility in handling the Marshall Plan bulk cargoes and to avoid the cost and administrative delays involved in moving bulk carriers in and out of the laid-up fleet, a working reserve of at least 100 Liberty vessels should be maintained for ready availability.

b. Tankers.—Tankers present a somewhat special problem. In the first place the position here is one of prospective world shortage rather than surplus. In the second place, it is generally recognized that the great bulk of Europe's required petroleum imports, most of which will come from the Eastern Hemisphere in the future, will and should be carried in foreign flag vessels. Hence it is appropriate to transfer to foreign flag any United States surplus tankers which are not required for our own import programs insofar as this can be done without jeopardizing national defense.

The Committee recommends as part of the aid program the transfer to foreign governments of some special tanker types now in lay-up. These vessels, consisting principally of nearly 60 Liberty tankers, are not needed by United States interests and they could be sold by the receiving governments to private interests in foreign countries for local currency.

The Committee also recommends the construction in American yards of some new, large, fast tankers for the American oil companies to ease the prospective tanker shortage and strengthen our fleet available for defense. These tankers should be designed in cooperation with the Navy so as to incorporate any special features as to speed, etc., that the Navy may desire. Such construction would release additional numbers of our older tanker types for sale to foreigners.

It is further suggested that the presently planned balance between foreign construction of dry-cargo and tanker vessels be shifted to provide for more tanker construction and less dry-cargo.

In order to meet any possible tanker operating contingency Congress should extend beyond March 1 the authority for operation of United States Government owned tankers under general agency agreements.

4. Dollar shipping costs.—The Paris countries estimate that their gross dollar expenses for ocean freight for the four year period will amount to about 1,200 million dollars for dry cargo and 500 million dollars for tanker freight charges. It should be possible to reduce the total of 1,700 million dollars to the neighborhood of a billion dollars. In the first place the cargo requirements with which the Paris Conference was working will be reduced somewhat by lack of avail-

abilities. Second, their original figure includes over 200 million dollars to be paid foreign flag vessels for carrying cargo to Europe from areas other than the United States. Whatever dollars may have to be furnished for this purpose should be held to a minimum. Third, the tanker dollar freights can be very greatly reduced by the transfers abroad and the additional foreign construction proposed. Finally, the bulk freight rate assumed in the Paris calculation is unrealistically high.

It is argued that this dollar cost could be still further reduced if United States would transfer additional vessels abroad for foreign flag operation in the bulk trades over and above those exchanged for reduced foreign construction. Since it is not seriously proposed that the United States should abandon its liner fleet, the potential savings are limited to the 500 million dollars that Europe will probably require to cover dollar freights on United States tramp vessels. Even this estimate exaggerates the savings obtainable from transfers, since under foreign flag these vessels would continue to have substantial dollar expenses. The limited financial savings are not sufficient to justify the drain on United States resources for national defense which such transfers would involve.

5. *European inland transport—*a. General.**—The transport system of Western Europe, which was badly damaged by the war, has made considerable progress toward recovery. Chiefly as a result of crises in Western Germany, however, it was barely able to squeak through the winter of 1946-47 without a major breakdown. There were instances in which food spoiled, coal had to be stockpiled at mines, and raw materials could not get into the productive process for lack of adequate transport. It is clear that this is one of the most vital spots in the whole foreign aid program, since if Europe's transport system cannot carry a minimum load, imported commodities cannot be distributed, and it is useless to hope for a revival of the European economy.

This is mostly a problem of effective action in Europe, and especially in the Bizone, although, even with such action, help from the United States in the form of equipment and raw materials for equipment will be required. Germany lies at the heart of the problem for three reasons. First, Germany is physically in the middle of Europe and many of the shortest routes between other countries lie across German territory. Second, the most important single production problem on the continent from the standpoint of the Paris countries is Ruhr coal, and without adequate German transport facilities Ruhr coal cannot be distributed to the West. Third, a principal barrier to the reestablishment of efficient transport service in Europe is the difficulty placed in the way of the international movement of goods by the lack of currency convertibility. This problem is more serious between Germany and

the rest of Europe than between any of the Paris countries. Such steps as are recommended elsewhere in this report for restoring normalcy of operations in the Germany economy generally will have a more beneficial effect on European transport than any other one factor. But a minimal rehabilitation of the German transport system is itself a necessary condition for the restoration of other normal functions of the Germany economy.

b. Railway equipment requirements.—The Paris countries report that, if they receive adequate supplies of raw materials, they could supply all their own needs for transportation equipment (except possibly railroad passenger cars) and in addition produce a surplus of 124,000 cars over the 4 years for export to the Bizone. Their stated needs do not appear to involve any unreasonable increase in traffic over current levels. Unfortunately, however, they seem to have grossly overestimated what they can do to expand their own car supply. It seems most unlikely that they will be able to help Germany to any significant degree. In fact, they will have to put great emphasis on their repair programs, make maximum use of their waterway and highway facilities, and utilize their railroads as efficiently as possible in order to meet their own minimum requirements.

c. Self-help measures.—The Paris Conference countries should push forward with a number of measures of self-help to improve their own transport position. Their inland transport program, including new production, replacement, and repair, will require some 16 million tons of steel over four years or about one-twelfth of the total steel they hope to have available. Unless these countries place a top priority on steel for transport purposes their transport systems will not be able to meet the demands of reviving European production. The United States should urge Paris Conference countries to give transportation requirements top priority for procurement of steel. Less essential uses such as shipbuilding should take second place. Otherwise aid will not be effective.

Inadequate attention has been paid in Europe to the needs and possibilities of international highway transport. For the most part trucks cannot move across national boundaries. Progress must be made with an international convention or with bilateral agreements facilitating international trucking. The European countries should give consideration to the continued import of trucks from this country (which the United States can supply) as a means of relieving congestion on the railroads.

The return of railway cars to their country of origin is essential to facilitate repair. This depends on the reestablishment of the car exchange arrangements in operation before the war. Difficult questions of ownership continue to arise which could prolong negotiations for such a scheme for many months. This delay must not be allowed to

occur. The solutions appropriate to these problems must be worked out by the countries concerned in whatever fashion they see fit. The United States agencies which are responsible for operations under any economic assistance program should insist that effective solutions be arrived at, and quickly.

d. The German transport problem.—The Bizonal authorities have stated a requirement for 41,000 new freight cars by the end of 1948. If they do not get these cars it seems probable that their serviceable car park may well fall by that time by as much as 7 or 8 percent below the critically low level of January 1947. The requirement as stated seems a reasonable one, even assuming an effective repair program and arrangements for a fuller use of the Rhine and other waterways. On the other hand, the freight car position in this country is so tight that the United States cannot safely and wisely plan to export during 1948 the number of cars requested. To strip our own railway system to the point where the export program could not be handled at this end would be utterly foolish. However, the Committee does recommend that every effort be made to supply from this country some 20,000 freight cars (the equivalent of about 10,000 domestic cars) for Germany during 1948.

These cars, however, will not solve the German transport problem by any means, and they must not be regarded as in any degree a substitute for an intensive repair program in Germany, which must be pressed with the utmost vigor. Adequate steel for this repair program is even more important than new cars.

Furthermore, the supply of these cars, vital as it is in meeting the immediate problem, is in no sense a long-run solution to the German transport problem. More fundamental steps must be taken to use the Rhine and other waterways more effectively, and to integrate transport rehabilitation with a comprehensive plan to bring the German economy up to the restricted levels of activity now agreed to.

The Rhine, normally the backbone of transport for the bulk exports of the Ruhr, is not now being fully utilized because of a disagreement over financial matters. There is now very considerable tug and barge capacity lying idle in Holland and Belgium because the Bizonal authorities and the Netherlands and Belgian governments cannot agree on a plan for the reciprocal use of the Rhine by the river vessels of all three countries. This plan as recently discussed involves using the Low Country ports for the movement of cargo destined for the Bizone which now passes through Hamburg and Bremen. The Low Countries feel they should get some current return for handling this cargo, while the United States military authorities contend that their appropriations will not permit them to spend any additional dollars on cargo handling charges. If this matter could be settled, the resulting clear-

ing arrangements might permit the movement of as much as 10 million tons more coal a year from the Ruhr. In cases such as this where inadequate appropriations for United States Military Government are limiting the effectiveness of European transport facilities, the United States should certainly provide the relatively small additional amounts necessary to reestablish normal Rhine traffic. It would be the height of folly to permit a small financial impediment to stand in the way of an improvement in transport which could make a major contribution to the recovery of Germany and Europe.

G. Other Machinery

In addition to the programs specifically covered by the technical committees, the CEEC report includes an item of 1.148 million dollars of other equipment required from the American continent "to create new capacity or to restore or replace damaged capacity." No indication is available as to how this estimate was derived or what is included. Hence it is not possible to draw any conclusions as to the reasonableness or the urgency of the requirement.

There is in addition an unspecified amount of equipment and parts required for normal repairs and replacements. On the other hand, the equipment requirements reported by the technical committees—and discussed elsewhere in this report—include materials, such as steel pipe, as well as machinery in the narrower sense. The total amount of machinery imports included in their 4-year program appears to be in the neighborhood of 5 billion dollars but this is only a rough approximation.

In most instances it has not been possible to segregate the machinery items in the import requirements so that they can be related either to United States' productive capacity or to present exports. In only two instances are the requirement estimates even approximately equivalent to American production and export data. These are agricultural and railroad equipment. Deducting these two programs leaves a balance of over 3 billion dollars of other machinery, or roughly 800 million dollars per year.

Total exports of producers machinery from the United States to these countries, excluding the same two categories, were at the annual rate of less than half a billion dollars in the first half of 1947. Allowing for the crudity of the calculation, and for some uncertainty as to the basis of the dollar valuation, it would appear that they are asking for substantially more than they have been getting.

Some indication of the composition of European machinery requirements can be gleaned from recent United States exports to that area. In the first half of 1947, and again excluding railroad and agricultural equipment, these were made up as follows:

	<i>Percent</i>
Metal-working machinery-----	22
Trucks-----	11
Construction and conveying equipment-----	8
Office machinery-----	6
Textile, sewing, and shoe machinery-----	4
All other-----	49

With some important exceptions, notably machine tools, demand for most items of producers equipment is well in excess of domestic production. Output is limited by shortages of steel, particularly sheet and strip and particularly where steel is a relatively large part of the value of the finished product. Output of many items is also limited by plant capacity. Moderate increases in production are expected over the next year as additional steel becomes available and additional capacity comes into operation.

The very high domestic demand reflects in part the wartime accrual of replacements, and in large part the effort to expand and modernize production facilities quickly to meet the needs of a much higher than prewar level of national output. Maintaining or increasing exports of equipment means delaying that process and spreading the backlog of domestic demands over a longer period of time. Even total elimination of exports, however, would not balance supply and demand in important instances.

In general, the foreign demand is also far in excess of the recent rate of exports. However, only about one-fourth of those exports have been going to Europe. As the gold and dollar balances held by the rest of the world are exhausted there may be some decline in non-European exports and, therefore a greater availability for European aid, even without any deliberate policy of diversion.

H. Other Goods

1. *General.*—The CEEC report presented a very large figure, not broken down into detailed commodities, for miscellaneous requirements. Some of these goods have been considered in previous parts of this report in the sections to which they are relevant; thus, account has been taken of ships in the transport section, of pipes and tubes in the section on iron and steel, and so forth.

There remains a considerable number of other items for which no specific requests were submitted, but which were covered into this miscellaneous category. In the absence of detailed data, no searching examination has been possible. The Committee nevertheless believes that the export, even at present rates, of some of these commodities will exert an inflationary effect on the United States economy, although some others may be in relatively free supply. In view of this, and of the fact that European production of these goods may increase

during the latter part of the four-year period, the Committee recommends that decisions as to the appropriate level of exports be left to the administrator of a European recovery program. The agencies presently charged with operation of export controls should continue to exercise strict regulation of such exports, and they should consult with the administrator of a European recovery program as to the extent to which exports of these goods are advisable.

Data on the amounts which may be available for export are indicated in Table 4. It must be emphasized, however, that the figures which are shown under the heading "Available for Export" are not necessarily the amounts which the Committee regards as advisable to furnish to Europe.

Comments on several of the commodities, on the basis of meager statistical data, are presented below.

2. *Cotton*.—Preliminary analysis of the CEEC report indicates that in 1947-48 the European demand on the United States for raw cotton will be in the neighborhood of 2.5 million bales. This will certainly be at or near the upper limit of our ability to export, and, unless mill consumption declines considerably from the 1946-47 level, may be more than we can achieve. Careful screening of requirements and intelligent administration of export controls will be necessary if exports of such magnitude are made during the 1947-48 crop year. In succeeding years it seems probable that increased world production may relieve the situation to some extent.

3. *Other fibers*.—The only other textile fiber mentioned in the CEEC report was wool. As the United States is a net importer of wool, there are no apparent requirements for that commodity from this country. It appears that world supplies will be adequate, although mill consumption at present rates will reduce world carry-over to some extent. There have been no indications of any requirements for rayon, jute, or other natural fibers. It is felt that whatever needs develop within the participating countries will be met by sources outside the United States.

4. *Timber*.—The world, including the United States, has an inadequate supply of softwood timber and of the better-quality hardwoods. Although the available data on European requirements do not show clearly what kinds and grades are wanted, indications are that the demand will be heaviest on the more critical items, those that are in short supply in the United States. If some flexibility as to grades and species is permitted, it would seem that the quantities of timber products needed from American sources over the 4-year period, around \$418 millions, is within reason. More detail is needed as to the requirements of equipment for logging, sawmills, and veneer mills. It is felt that some scaling down may be necessary in this area, particu-

Table 4.—Available supply, United States consumption, and amount for export of selected commodities, 1948

Commodity	Unit	1948 potential production	1948 imports	Available supply	Estimated United States consump- tion	Available for export		Current rate of exports (1947) ¹
						Actual	Percent of production	
Textiles:								
Raw cotton.....	Million bales.....	² 11.5	0.3	11.7	³ 9.5	2.2	18.8	3.5
Linters.....	1,000 bales.....	1,230	100	1,330	1,250	80	6.5	60
Cotton cloth.....	Million square yards.....	11,118	30	11,148	10,148	1,000	9.0	900
Rayon fiber.....	Million pounds.....	1,075	50	1,125	1,080	45	4.2	45
Rayon fabric ⁴	Million yards.....	2,035	3	2,033	1,798	230	11.8	230
Cotton tire cord.....	1,000 pounds.....	290,000	0	290,000	184,000	106,000	36.6	13,000
Rayon tire cord ⁴	do.....	210,000	0	210,000	191,000	19,000	9.0	19,000
Hard cordage, rope, and twine ⁴	Million pounds.....	505	55	560	555	5	1.2	5
Raw jute and butts ⁴	Long tons.....	500	95,000	95,500	95,000	500	4.0	500
Burlap and jute bags ⁴	Million pounds.....	35,500	40	35,540	35,000	540	4.0	540
Lumber.....	Million board feet.....	1,200	1,200	36,700	35,700	1,000	2.8	1,000
Pulp and paper:								
Total paper and board ⁴	1,000 short tons.....	21,800	4,080	25,880	25,195	685	3.0	355
Total paper products ⁴	do.....	12,000	10	12,010	11,760	250	2.1	120
Total wood pulp ⁴	do.....	12,500	2,200	14,700	14,510	190	1.5	135
Leather:								
Sole, welting, and offal bovine ⁴	1,000 pounds.....	380,000	5,150	385,150	377,900	7,250	1.9	5,250
Upper and lining ⁴	1,000 square feet.....	1,315,000	16,000	1,331,000	1,287,400	43,600	3.5	47,850
Gloves and garments ⁴	do.....	439,000	1,750	440,750	431,750	9,000	2.3	12,125
Leather manufactures: Boots and shoes.....	1,000 pairs.....	475,000	3,000	478,000	471,000	7,000	1.5	7,200
Rubber:								
Passenger car tires.....	1,000 units.....	70,059	0	70,059	61,425	8,634	12.3	1,698
Truck-bus tires.....	do.....	15,803	0	15,803	10,675	5,128	32.4	1,693
Conveyor belting ⁴	1,000 pounds.....	50,000	0	50,000	50,000	0	0	6,000

¹ Based on first 6 months.

² 1946-47 crop.

³ Assuming this level of mill consumption.

⁴ Indicates commodities where domestic demand will exceed supply regardless of exports.

larly in view of the fact that it is doubtful that the full request for \$57,330,000 from the United States could be met in the 4-year period.

5. *Wood pulp and paper.*—There appear to be no requirements on the United States for wood pulp or for paper. The United States will, in 1948 and succeeding years, be in a position to export sizeable quantities of paper products if needed for European recovery. This will only be true in the event that there is no important diversion of the present shipments of Scandinavian pulp to United States manufacturers.

6. *Hides, leather, and shoes.*—In the CEEC report no details are given as to requirements of hides, leather, and shoes. As Europe does not traditionally import any sizeable amounts of those commodities from the United States, it is felt that demands in this area will probably be small. There are indications that the requirements during 1948 may be in the neighborhood of 1 million cattle hides. This is very close to estimated exports for 1947, which have produced a shortage on the domestic market. If the unusually high domestic cattle kill is not continued in 1948, it is probable that exports of this magnitude would result in a severe strain on the United States leather and shoe producers.

7. *Rubber products.*—In the field of rubber products, few problems are presented other than conveyor belting. All transportation items are in free supply and proven capacity is available to produce at a rate far greater than any foreseeable demand. Crude rubber is a strategic material which could be purchased for adding to the Government stockpile sometime in the future when the world supply-demand position would permit.

Conveyor belting is the only major rubber product where a serious shortage exists. Production capacity is being increased, but the outlook for 1948 is that domestic demand will exceed the total production for that year. Requests of the European nations for 1948 alone are equal to about one-half of the United States estimated production. The committee recommends that these requests be carefully screened with respect to how much conveyor belting could actually be put to use in European coal mines during the next four years and particularly in 1948.

8. *Chemicals.*—Requirements of chemicals were not given in the CEEC report, but estimates have been made that indicate that the total demand in 1948 on the United States may be in the neighborhood of 260 million dollars. As the total estimated output of the United States chemical industry is around 9 billion dollars annually this figure represents a very small portion of the total. Nevertheless, there are some critical areas where any increase in exports could have a serious effect on the domestic industry.

V. The Magnitude of the Program

A. Nature of the Calculations

The analysis in section IV on requirements and availabilities indicates limits on the quantities of a number of key commodities that can be made available to Europe. It is now urgently necessary to estimate the over-all cost and it is understandable that Americans and Europeans attach great significance to any such estimate, whether it is the CEEC estimate as a measure of European need or an American estimate as a measure of what the United States can undertake. This section of the report sets forth estimates of over-all magnitude. But in presenting them, the Committee wishes to make two observations, both of which are warnings against overemphasizing the importance of any such figures of over-all dollar magnitudes.

The first observation is that, while total magnitudes have to be expressed in dollars, the basic decisions should be made not in terms of amounts of money but of quantities of goods. This has nothing to do with administration. It does not mean that any part of a program of American aid should necessarily take the form of the supply of commodities rather than the transfer of funds. It is rather a way of emphasizing the fact that the real cost to the people of the United States depends upon the amounts of goods and services supplied; that is, the real wealth transferred to the governments and people of other countries. It does not depend upon the size of entries in books of account.

The second observation has to do with the nature and imperfections of the figures. For reasons explained in section III on the European recovery problem, the amount of American aid required can be estimated only by calculating the foreign exchange deficit of the participating countries. To make such a calculation even for a limited period it is necessary to engage in a kind of economic forecasting which is subject to a wide range of error, no matter how honestly and carefully done. Europe's import needs are affected by the amount of coal that is mined in the Ruhr, the severity of the winter, the size of European crops, and rates of production in many European industries beside mining and agriculture. An estimate of what Europe will actually import must take account of the availabilities of supplies elsewhere in the world. European exports depend directly upon production and that, in turn, upon imports. Unpredictable though they are, Europe's imports, exports, and production can be more reliably forecast than can the prices at which European exports can be sold and the prices that will have to be paid for imports of food and raw materials. Yet a change in the forecasting of any one of these alters the estimate of the foreign exchange deficit.

Because of the inherent impossibility of narrowing the margin of error to a tolerable size, no honest man will try to decide at this time how much aid Europe will need and how much it would be wise for the United States to give over a period as long as 4 years. Moreover, grave consequences would follow from any ill-advised attempt to achieve a finality for which there is no basis. A rigid ceiling set too low would provoke another crisis; one set too high would encourage waste. Nor is finality necessary. Presumably, funds to cover most of whatever program is approved will be provided by congressional appropriation or by a public corporation whose annual budgets would be subject to congressional review. Hence, the final decision will be made year by year; administratively, the unpredictability of the need will be recognized. However, the American people have a right to know what is likely to be the ultimate cost of any commitment upon which they enter. Accordingly the estimates presented here are in the form of a range of possibilities defined by an upper and a lower limit rather than in terms of a specific figure. Estimates in this form of the magnitude of the whole program must be supplemented by more precise figures covering the first year.

B. The Burden on the United States Treasury

The Committee believes that the burden on the United States Treasury in the form of grants and loans would be approximately 5.75 billion dollars for the first calendar year of the program and between 12.5 and 17.2 billion dollars over the whole 4-year period. If American aid is promptly made available so that the calendar year 1948 may be taken as the first year, the unexpended portions of appropriations already made for aid to the participating countries will cover a part of the cost. It is estimated that approximately three-quarters of a billion of such funds will remain which would reduce the amount of new appropriations needed to approximately 5 billion dollars.

These figures do not represent the full foreign exchange deficit of the participating countries. The way they are calculated is summarized in table 5 for the year 1948 and in table 6 for the years 1948-51. The first step is to estimate the imports that the European countries will need from the United States and from Canada and Latin America. This is the major cost that the countries in question have somehow to cover in currencies other than their own. Next, it is necessary to estimate the participating countries' exports to the Western Hemisphere. To the extent of their exports they will be paying for their imports with their own production. Although exports and imports are the two largest elements in the balance of payments, there are other costs they will incur and other revenues they will receive in the currencies of the Western Hemisphere countries. One cost is that of supplies for dependent territories. Another is for services of all kinds, especially

shipping services. The revenue items include earnings on their remaining investments in this hemisphere and what we pay for shipping and other services. All of these items are summed up in the third and fourth lines of tables 5 and 6. The result is a figure for the estimated balance of payments deficit which measures the excess of the costs that must be met by the participating countries in the Western Hemisphere over their revenues from the Western Hemisphere.

It is impossible to go further in the calculation without encountering a major complication. Plainly, the size of the European balance of payments deficit will depend very directly upon the prices the European countries have to pay for their imports. If prices decline, they will be able to buy needed food and raw materials more cheaply; if prices stay at present levels or rise further, their imports will cost them proportionately more. The CEEC made its calculations on the basis of an assumption the Committee believes to be unrealistic. However, to rest any conclusions on any specific assumption as to the behavior of prices introduces into them an unpredictably large element of uncertainty. Therefore, two alternative assumptions have been employed. One takes account of the present high prices and allows for little price decline in the next four years. The other is the optimistic assumption employed by the CEEC that the prices the European countries pay for their imports will decline steadily. The estimate of the balance of payments deficit has been adjusted on the basis of each of these two assumptions and the adjusted figures are those in lines 8 and 9 of the tables.

The resulting adjusted deficits are considerably larger than the estimated burden because they will not have to be covered in full by grants or loans from the United States Government. In order to arrive at the cost of the program to the United States Government at least three deductions must be made from these figures. First, whatever dollar funds the International Bank makes available for the financing of capital development programs will serve to make up a part of the deficit. Second, unless it is contemplated that the United States Government shall make up the entire balance of payments deficit incurred by the European nations in their trade with Canada and Latin America, a further deduction can be made for that proportion of it that is covered in some other way. Third, there will almost certainly be some private capital funds available to finance European governments and enterprises, especially in the latter part of the period. The American corporations that have branch plants, for instance, will probably have to provide some such funds. Effective monetary and exchange stabilization would make some European private dollar balances available. A successful recovery program will certainly place a number of the European governments in a position to go to the private capital market before the 4 years have elapsed. These deduc-

[In billions of dollars]

[illegible]

Table 6.—Balance of payments projection 1948-51
[In billions of dollars]

	OECE			Low availability of imports			High availability of imports		
	U. S. A.	Other America	Total America	U. S. A.	Other America	Total America	U. S. A.	Other America	Total America
1. Imports.....	-21.03	-14.05	-35.08	-14.91	-13.31	-28.22	-18.60	-15.61	-34.21
2. Exports.....	+4.67	+7.63	+12.30	+4.10	+6.50	+10.60	+4.68	+7.63	+12.31
3. Net position on invisible account.....	-1.58	+0.01	-1.57	-1.28	+0.50	-0.78	-1.02	+0.40	-0.62
4. Net position of dependent territories.....	-30	-27	-66	-33	-33	-66	-17	-29	-46
5. Unadjusted balance of payments.....	-18.33	-6.66	-25.01	-12.42	-6.64	-19.06	-15.11	-7.87	-22.98
6. Adjustment for prices of imports.....									
7. Assumption of stable prices of imports.....			+2.57			+2.04			+2.52
8. Assumption of falling prices of imports.....									
9. Adjusted balance of payments.....			-22.44			-19.10			-22.98
10. Assumption of stable prices of imports.....						-16.98			-20.46
11. Assumption of falling prices of imports.....			+3.13			+4.48			+5.82
12. Non-Treasury financing.....									
13. Financed from United States Treasury.....									
14. Assumption of stable prices of imports.....									
15. Assumption of falling prices of imports.....			19.31			14.62			17.16
16. Assumption of falling prices of imports.....						12.50			14.64

tions should total between 1 and 1.25 billion dollars in 1948 and from 4 to nearly 6 billion dollars over the 4-year period. The estimates set forth above of the burden on the Treasury are arrived at by making these deductions from the adjusted balance of payments deficits.

The final results appear in lines 11 and 12 of tables 5 and 6. As to the cost of the whole 4-year program, the lowest figure arrived at by the most favorable combination of assumptions is 12.5 billion dollars; the highest is 17.2 billion dollars. There is a similar range of possible estimates for the year 1948. However, certain possibilities as to the first year can be discarded as highly unrealistic. It seems particularly unlikely that European imports can be bought during the next 12 months at the prices that prevailed last July, in view especially of the large increase in the price of food that has taken place since then and the world shortage that seems certain to continue for another year at least. Consequently, the range of figures for the cost to the Treasury that is believed by the Committee to be relevant is from about 5.5 billion dollars to just over 6 billion dollars. It is recommended that planning proceed on the basis of the figure of 5.75 billion dollars as stated above.

C. European Imports

This statement of conclusions needs to be supported and explained by some reference to the underlying estimates. It is logical to begin with the figures for European imports. Certain import requirements appear to have been overstated even as requirements. However, those for foodstuffs and for most consumers goods have not, and probably raw material requirements are reasonable as such. But certain of the figures for capital goods and equipment are decidedly high. The most extreme case is that of agricultural machinery. The amount stated to be required is so large that there is the gravest doubt as to whether it could be utilized by the importing countries even if it could physically be made available and its import could be financed. Mining machinery is another case in point. Although a high priority is and should be attached to expanding coal production, a highly competent study by the European coal organization suggests the requirement may be lower than that stated by the CEEC.

Far more serious than the overstatement of needs is the revision in import estimates required by limitations on supply in the United States and elsewhere. Total food and fertilizer imports will almost certainly be 2 to 4 billion dollars less over the 4-year period than those projected in the Paris program. The supply limitation will be serious in the case of cotton and nonferrous metals and it will be the controlling factor with regard to shipments of many types of equipment and machinery from the United States.

Revised estimates of imports are set forth in table 7 in comparison with the Paris figures. As the margin between the two alternative sets of revised estimates indicates, there is greater uncertainty concerning imports from the Eastern Hemisphere than those from Canada and Latin America or from the United States. Total imports from the United States for the 4-year period are estimated to be from 2.5 to 6 billion dollars lower than estimated by the CEEC when adjusted in the light of supply possibilities. However, the revised figures for shipments from other Western Hemisphere destinations range from three-quarters of a billion dollars below to 1.5 billion dollars above the CEEC figures. The Paris estimates of what would be available from Canada and Latin America would appear to have been more realistic than their appraisal of the supply position in the United States.

D. European Exports

It is more difficult to make any reasonable estimate of European exports. Since the physical availability of supply will be the limiting factor on imports in so many cases, a basis exists for determining what may reasonably be expected. However, European export capabilities depend primarily on European production. There is little doubt that European exports were overestimated in the Paris report, probably by a rather large percentage. Domestic production goals

Table 7A.—CEEC Stated Import Requirements for 16 Participating Countries and Western Germany

[In billions of dollars]

	1948			Total 1948-51		
	U. S. A.	Other America	Eastern Hemisphere	U. S. A.	Other America	Eastern Hemisphere
Imports of commodities covered by Paris technical committees:						
Commodities:						
1. Food, feeding stuffs and fertilizer.....	1,452	1,856	1,937	5,910	7,807	9,732
2. Coal and other solid fuels.....	342		255	666		1,515
3. Petroleum products.....	512	n. a.	n. a.	12,187	n. a.	n. a.
4. Iron and steel products.....	370		43	1,292		149
5. Timber.....	96	170	253	351	621	1,417
Equipment:						
6. Agricultural machinery.....	370		n. a.	1,188		n. a.
7. Mining machinery.....	80		n. a.	220		n. a.
8. Electrical equipment.....	150		n. a.	500		n. a.
9. Petroleum equipment.....	168		n. a.	535		n. a.
10. Steel plants.....	100		n. a.	400		n. a.
11. Inland transport equipment.....	208		n. a.	490		n. a.
12. Timber equipment.....	10		n. a.	32		n. a.
13. Subtotal programmed items.....	3,853	2,026	2,488	13,791	8,428	12,811
Other imports:						
14. Machinery, n. e. s.....	287		n. a.	1,148		n. a.
15. Unspecified.....	1,787	1,212	2,211	6,086	5,619	9,381
16. Total imports (13+14+15).....	-5,927	-3,238	-4,699	-21,025	-14,047	-22,191

¹ Estimate of dollar costs for petroleum imports from all sources.

² Partial estimate.

Table 7B.—Estimated Imports of 16 Participating Countries and Western Germany Assuming Low Availability

[In billions of dollars]

	1948			Total 1948-51		
	U. S. A.	Other America	Eastern Hemisphere	U. S. A.	Other America	Eastern Hemisphere
Imports of commodities covered by Paris technical committees:						
Commodities:						
1. Food, feeding stuffs and fertilizer.....	1,150	1,500	1,030	4,350	6,450	5,190
2. Coal and other solid fuels.....	370	-----	200	825	-----	1,150
3. Petroleum.....	250	¹ 235	(²)	850	¹ 1,365	(²)
4. Iron and steel products.....	175	20	25	675	80	70
5. Timber.....	95	140	200	345	520	1,125
Equipment:						
6. Agricultural machinery.....	75	15	neg.	455	90	neg.
7. Mining machinery.....	80	neg.	neg.	220	neg.	neg.
8. Electrical equipment.....	100	neg.	neg.	355	neg.	neg.
9. Petroleum equipment.....	75	neg.	neg.	375	neg.	neg.
10. Steel plants.....	50	neg.	neg.	200	neg.	neg.
11. Inland transport equipment.....	60	neg.	neg.	150	neg.	neg.
12. Timber equipment.....	15	neg.	neg.	55	neg.	neg.
13. Subtotal programmed items....	2,495	1,910	1,455	8,855	8,505	7,535
Other imports:						
14. Machinery, n. e. s.....	400	-----	n. a.	1,350	-----	n. a.
15. Unspecified.....	1,450	1,050	1,900	4,700	4,800	7,900
16. Total imports (13+14+15).....	-4,345	-2,960	-3,355	-14,905	-13,305	-15,435

¹ Estimate of dollar costs of petroleum imports from all sources other than U. S. A.

² Estimate of imports not available see footnote 1.

Table 7C.—Estimated Imports of 16 Participating Countries and Western Germany Assuming High Availability

[In billions of dollars]

	1948			Total 1948-51		
	U. S. A.	Other America	Eastern Hemisphere	U. S. A.	Other America	Eastern Hemisphere
Imports of commodities covered by Paris technical committees:						
Commodities:						
1. Food, feeding stuffs and fertilizer.....	1,270	1,825	1,600	5,320	8,325	8,500
2. Coal and other solid fuels.....	370	-----	255	775	-----	1,515
3. Petroleum.....	250	¹ 235	(²)	1,000	¹ 1,215	(²)
4. Iron and steel products.....	300	20	25	1,135	80	70
5. Timber.....	95	170	215	345	620	1,250
Equipment:						
6. Agricultural machinery.....	125	15	n. a.	655	90	n. a.
7. Mining machinery.....	105	-----	n. a.	320	-----	n. a.
8. Electrical equipment.....	125	-----	n. a.	455	-----	n. a.
9. Petroleum equipment.....	130	-----	n. a.	525	-----	n. a.
10. Steel plants.....	100	-----	n. a.	350	-----	n. a.
11. Inland transport equipment.....	60	-----	n. a.	210	-----	n. a.
12. Timber equipment.....	15	-----	n. a.	55	-----	n. a.
13. Subtotal programmed items....	2,945	2,265	2,095	11,145	10,330	11,335
Other imports:						
14. Machinery, n. e. s.....	500	-----	n. a.	1,700	-----	n. a.
15. Unspecified.....	1,600	1,140	2,000	5,750	5,280	8,500
16. Total imports (13+14+15).....	-5,045	-3,405	-4,095	-18,595	-15,610	-19,835

¹ Estimate of dollar costs of petroleum imports from all sources other than U. S. A.

² Estimate of imports not available; see footnote 1.

set forth in the Paris report are generally on the optimistic side. The evidence of recent production rates and recent exports suggests that it will be difficult for the Europeans to reach the goals they have set. A small percentage decline in domestic production may be sufficient entirely to wipe out an exportable surplus. Moreover, it would be unwise for the European governments to maintain exports by imposing too severe an austerity upon domestic consumers. Wholly aside from the intrinsic desirability of maintaining an adequate standard of living, some increase in the supply of consumers' goods seems almost essential to the restoration of production incentives. The attempt to reach export goals if expectations of production are not fulfilled will only add to the inflationary pressures that are responsible for so many of the present dislocations in the European economy.

Aside from these general considerations there are a number of specific cases in which the unavailability of imports will operate directly to limit European exports. The case of semifinished steel products has been noted in the section on steel requirements.

It appears impossible for European exports of finished steel products to reach anything like the Paris figures without very damaging effects on their domestic steel consuming industries. The textile industry may turn out to be another case. The world supply of cotton does not appear to be adequate to permit operation of existing facilities to capacity without which large exports could not be achieved. The quantitative importance of this particular component is impossible to gauge because it is not separated out in the CEEC report. As these two examples illustrate, the expectation of European exports as large as those projected in the Paris report is not consistent with reduced estimates of imports. The larger the reduction of imports imposed by supply limitations, the greater the reduction of exports. On the basis of the smaller of the two alternative estimates of European imports in Table 6, it has seemed realistic to cut the CEEC figures for exports to the Western Hemisphere during the whole period of the program by about one-sixth. In dollars the cut is 1.7 billion dollars. Even taking the highest estimate of European imports, somewhat lower export figures must be used to take account of specific shortages such as steel and cotton. The figures used in arriving at a rough calculation of the balance of payments deficit are given in tables 5 and 6.

E. Prices

The exports and imports of participating countries will be the decisive elements in their balance of payments. However, a third factor which will decisively affect the result is the relationship between the prices the European countries receive for their exports and the prices they have to pay for their imports. The Paris calculations

assume that price relationships will change over the next 4 years in favor of the participating countries. To give effect to this assumption, the figures for gross imports are reduced by 7.5 percent for 1949; 10 percent for 1950; and 12.5 percent for 1951. The downward adjustment in the cost of imports from the Western Hemisphere (shown in Line 9 in tables 5 and 6) amounts to over 2.5 billion dollars for the 4-year period.

In appraising the realism of this assumption, it should be borne in mind that it implies a decline in the prices of foods and raw materials by more than the assumed reduction of 12 percent in the prices of all European imports. Unless future price changes follow a totally different pattern from any that have occurred in the past, the prices of many products will be relatively rigid even in the face of a decline in the general price level. Specifically, there is no reason to expect that the dollar cost of most items of machinery and equipment will be sharply reduced. Most of the reduction in the average cost of imports would have to come about through a decline in the prices of foods and raw materials. These flexible price items make up about a third of CEEC's estimate of imports from the United States and more than half of total estimated imports from all sources. Thus, the CEEC assumption implies a decline in the cost of food and raw materials of the order of 20 percent over the next 4 years.

This assumption is difficult to accept. It is pointed out in the sections of this report dealing with specific commodities that European import needs in many fields cannot be met because of the unavailability of goods. World supplies of grain, meat, and fats and oils will probably be inadequate for 4 years. Petroleum requirements of the magnitude estimated by CEEC cannot be met because of the limitations on world production, refinery capacity, and means of transportation. The story is the same with regard to many raw materials and manufactured goods. This outlook for a continued shortage of the foods and raw materials which Europe must import, which are also the goods with the most sensitive prices, is not consistent with the assumption of a pronounced fall in the prices to be paid for imports by the participating countries. Moreover, the prices assumed by the CEEC for the first year of the program are those of July 1, 1947. Thus, the starting point is too low, especially for foods. Realism requires an upward revision for the first year.

Although the CEEC's assumption about prices is almost certainly too optimistic, any specific alternative assumption would also be subject to an extremely wide margin of error. Therefore, in recalculating the foreign exchange deficit of the participating countries, two alternative assumptions about prices have been used to determine a range of possibilities, as with exports and imports. The CEEC assumption derives a certain authority from its use in the Paris reports; it has

therefore been employed as the most optimistic alternative. To define the less optimistic alternative, it has been assumed that prices in the first year would be 7.5 percent higher than July 1, 1947, and 7.5 percent lower in the fourth year. The Committee believes that the actual course of events will be much closer to the less optimistic assumption.

F. Trade with the Eastern Hemisphere

The only other factor of major importance in the calculation of the balance of trade deficit is the treatment of trade between Europe and the Eastern Hemisphere countries. The CEEC estimated that this trade would be approximately in balance in the first year of the program and that the European nations would accumulate a surplus of approximately 3 billion dollars in the course of the 4-year period. The hope was expressed in the CEEC report that world economic conditions would be sufficiently favorable to make possible the application of this surplus against the foreign-exchange deficit with the Western Hemisphere. A discussion of this point would lead too far afield from the text of the report and it is deferred to the Appendix on the Magnitude of the Program in Part III. The assumption actually used in the revised calculations given in Tables 5 and 6 is that only half of the Eastern Hemisphere surplus could be applied against the Western Hemisphere deficit.

G. Significance of the Estimated Budgetary Cost

If the estimates of the cost of the foreign aid program to the United States Treasury discussed in this section are to be seen in perspective, it is necessary to be clear as to what the figures include. In the first place, they include an estimate of the occupation costs incurred by the United States Army in Germany and Austria, minus the direct cost of United States troops and personnel. This item will soon be running at a rate of over 1 billion dollars a year. The net figures also include items of the sort that have been financed in the past by the so-called post-UNRRA relief program and, indeed, all forms of United States Government grant or loan. For the first half of calendar 1947, withdrawals and disbursements for relief, loan, and grant-in-aid purposes in Europe, excluding the British loan, have been at an annual rate of about 2 billion dollars a year. Prior to the establishment of convertibility for sterling on July 1, and the run on sterling, British loan withdrawals were at the rate of 2.6 billion dollars. Taking the three items together, Germany plus other relief plus British loan, it may properly be said that the United States has been covering the European foreign exchange deficit at a rate of over 4 billion dollars per year. We know that we are committed to at least one major continuing outlay for occupation costs. To this extent,

at least, the proposed program is not a net additional burden over and above those which we would have had to bear in any case.

In the light of these comments, the Committee's judgment as to magnitudes can be expressed in qualitative terms as follows: First, as to the immediate future, what is suggested is a continuation of the present action of the United States Government in extending loans and grants to Europe, at only a moderate increase in rate, and the initiations of large-scale lending by the International Bank. Although this would involve only a relatively small increase in total amount, the expenditures would be better directed and better controlled as to destination and use, and they would be made in pursuit of a more constructive and more clearly defined objective. Second, as to the whole 4-year program, precise calculation is impossible; the CEEC's estimate of the foreign exchange deficit will probably turn out to have been too large; nevertheless, the deficit will be of the order of magnitude indicated in the Paris report.

Viewed from the standard of the United States interest in European recovery, an estimate of the amount of aid required is an estimate of the price that must be paid for certain important benefits. The benefits are human, economic, and political; they include the preservation of a certain kind of society and, it is hoped, the prevention of World War III. The Committee desires to emphasize its profound belief that there could be no more wasteful procedure than to make too small an investment. European requirements should be examined realistically. The United States should limit its aid to what is really necessary for recovery and must limit its aid so as to safeguard its own resources. But if too narrow a conception of what is needed for recovery prevails, the recovery program will degenerate into costly relief.

VI. The Financing of European Requirements

A. Present Dollar Resources

The principle of helping Europe to help itself applies to the financing of the program as well as to production. First then a brief survey of Europe's own financial resources is in order.

Discussion of the world dollar shortage might give the impression that the world outside the United States was bare of gold and dollars. This is not so. The gold stock of the United States is at present approximately 22 billion dollars; the amount of gold held outside the United States, exclusive of Russia, or earmarked for foreign account in the United States is about 11 billion dollars; and to this may be added cash dollar holdings, which are claims on gold, to bring the total to between 16 and 17 billion dollars of gold and dollar balances. Thus the basic gold and dollar reserves of other countries, as a total, are

substantially larger than before the war in financial terms, though smaller in terms of purchasing power. They are not far from their prewar relationship to the United States gold stock.

The difficulty, of course, lies in the distribution of these reserves. During and since the war the liberated Western European countries have been steadily losing gold and dollars, and up until very recently the neutral and Latin American countries made substantial gains.

The net of all this is that the United States is not the only holder of gold and dollars, and the dollar shortage may be eased somewhat by the increase of trade and the extensions of credits among other countries of the world in addition to any aid which the United States may render. These gold and dollar balances of course represent the monetary reserves of these countries against heavily expanded currency and bank credit; so the amount of leeway is not great.

More significant than the reserves are the unreported funds held by the nationals of European countries, either in the form of hoarded gold, or in United States or Swiss bank notes, and the still larger amount of balances and investments in the United States, Switzerland, and elsewhere which are not today available to meet the needs of those countries. It is difficult to determine the amounts of funds of this sort, but, for example, it is estimated that in the case of France the amount of gold and United States bank notes hoarded is between 2 and 3 billion dollars. The United States Department of Commerce estimates that the amount of foreign investments in this country is approximately 8 billion dollars, of which 3.5 billion dollars are stocks and bonds, and the rest principally direct investments, real estate, mortgages, and trust funds.

Several of the foreign countries have made various attempts to reach these funds by one legal device or another, with varying degrees of success. Some pressure has been brought upon the United States to act as a policeman in driving foreign funds back home, but this country has always taken the position that foreign money here is under the protection of our laws and traditions as to the sanctity of the property rights of the individual. These countries have a further potential resource in private funds of American business and individuals, which would become available for loans or direct investment in European countries as soon as economic conditions became more stable. They are now being repelled by economic uncertainties. Experience in this and previous emergencies appears to indicate that the key to obtaining use of some of these resources lies not in legal compulsions, but in the establishment of confidence on the part of nationals of the different countries in the policies of their own Government, and especially in the stability of their own currencies. In this situation, money can be coaxed, not driven.

To put the matter another way, we are all familiar with Gresham's law which is that "bad money drives out good money." An essential reason for the so-called dollar shortage in many European countries is that there has been a flood of bad local money, and this bad money has driven the good money under cover into Switzerland, the United States, and elsewhere.

Bad money not only drives out good money but drives out goods. Secretary Marshall in his Harvard address called attention to the unwillingness of farmers in many European countries to sell their produce for doubtful currencies, thus accentuating shortages of food. The situation cannot be corrected just by supplying more dollars, to be hoarded in their turn, but only by turning the bad money into good money. That means taking the well recognized steps to monetary stability—balancing the budget, reducing the excess money supply, increasing production, and fixing realistic exchange rates. The effectiveness of a vigorous stabilization program has been indicated by recent experience in Belgium, where such action, in combination with other factors, has resulted in increased production and trade.

The report of the Paris Committee recognizes this principle when it lists as the second point in its program "The creation and maintenance of internal financial stability as an essential condition for securing the full use of Europe's productive and financial resources." The questions which have arisen have related not to this principle, but to the timing and method of its application. Some students have suggested that currency stabilization, which has as its aim restoring the balance between the volume of money and the volume of goods, cannot be effective until production has increased to a higher level. While currency stabilization is easier when production is ample, the answer to this proposal at the present time is, first, that production has already increased substantially throughout most of Europe, and, second, that the currency disorganization is at present so great in France, Italy, and Germany that it is a blighting handicap on production itself. This Committee is of the opinion that currency stabilization is an essential immediate step without which further aid from this country will be wasteful and ineffective.

B. Methods of Financing American Aid

Fortunately this country can draw upon a substantial body of experience and well developed mechanisms in launching the Marshall program of aid to Europe. The CEEC in its Paris report recognizes four types of financial aid which may be distinguished from each other not only as to the character of the aid, but as to the method of financing. Classified by their purposes, the distinction among these four types has already been recognized in the grants and credits already extended by the United States, as summarized in Table 8.

1. *Food, fuel, and fertilizer.*—The first type of aid is to meet hunger and cold. It is the relief of human suffering and is a necessary basis for any program of rehabilitation. It now seems clear that the amount of dollars which may be spent in this area this winter is limited by what foods will be available, for the best that America can do will fail to satisfy all of Europe's needs.

Table 3.—Potential Gross Supply of Dollars Under Existing Loan and Gift Programs

[In millions of dollars]

	Available or potentially available	Funds drawn through July 1947	Unutilized
U. S. Government lending:			
Export-Import Bank loans.....	3,500	1,820	11,680
Lend-lease "pipe line" credits.....	1,500	1,350	¹ 150
Surplus property credits.....	1,150	950	200
Ship sales credits.....	330	180	170
Loan to United Kingdom.....	3,750	² 3,350	400
Monetary Stabilization credits.....	295	³ 8	287
RFC loan to the Philippines.....	70	70	0
	10,595	7,708	2,887
U. S. Government relief and special aid:			
UNRRA.....	2,700	2,700	
Post-UNRRA.....	332		⁴ 332
Relief in occupied areas.....	1,600	⁵ 1,000	⁶ 600
Greek-Turkish aid.....	400		⁷ 400
Philippine aid program.....	635	⁸ 125	510
International Refugee Organization.....	71		71
	5,738	3,825	1,913
International Bank.....	⁹ 3,296	250	¹⁰ 3,016
International Fund.....	¹¹ 3,406	86	¹² 3,320

¹ About 400 million dollars already committed to non-European countries by the end of July 1947.

² All but 8 or 9 million dollars of this required to meet unpaid bills for goods already procured.

³ Through Aug. 31, 1947.

⁴ Through Mar. 31, 1947.

⁵ Appropriations for fiscal year ending June 30, 1948, as accepted by the Congress and including an allowance for China.

⁶ Estimated.

⁷ More than half of this earmarked for Asia.

⁸ Over 60 percent of this is earmarked for military purposes.

⁹ 100 million dollars made available in surplus materials.

¹⁰ This is considered to be the probable ceiling on World Bank dollars loans. The Bank has about half a billion available to make loans at the present time. In addition, the Bank can sell its own debentures in the American capital market to raise further funds. However, the market will probably not absorb debentures which would carry the total volume of debentures plus initial contributions over the limit of the United States capital and other dollar subscriptions. Although the total authorized lending power of the bank is 8.2 billion dollars in various currencies, dollar loans are the only ones which can be used to purchase materials and equipment in substantial quantities for reconstruction purposes at the present time.

¹¹ These funds are usable only as specified in the Articles of Agreement under which the International Bank and Monetary Fund were established. The entire amount cannot be made available in the immediate future nor can it be made available solely to Europe.

¹² United States quota of 2,750 million dollars plus gold paid in by other countries through June 30, 1947.

Looking ahead, it is also evident that we cannot decide for 4 years ahead just what the annual expenditures will be, for we do not know in advance either how much Europe will need or how much America can send. The reasonable way to proceed is to make annual appropriations to cover the cost of food, fuel, and fertilizer. The normal time to make these appropriations would be in the spring of the year when some early estimates are possible of the availabilities abroad and here, subject to later revision when the facts are clearer.

A further advantage of annual appropriations is that they provide an opportunity for the American Congress to review the progress that European countries have made in developing their own resources. Appropriations for these purposes should contemplate a reduction year by year in the amount required, subject of course to the vagaries of nature.

A second characteristic of aid to Europe of this sort is that it does not provide by itself the means of payment. It is not self-liquidating. To be realistic we must admit that many of the countries of Europe with their other burdens are unlikely to be able to repay in dollars additional loans which might be made for the purpose of providing them with food, coal, and fertilizer. More loans would also stand in the way of effective operation of the International Bank. The Committee therefore believes that appropriations for these purposes should in many cases be grants-in-aid, and not loans, and suggests a figure of 3 to 3.5 billion dollars as being of the appropriate order of magnitude to cover such costs for the first year of the program.

The report of the CEEC financial experts makes a suggestion with respect to American aid which we believe should be made a part of the terms of the grants made for food, fuel, and fertilizer. The suggestion is that the local currency received by any government from its nationals as the result of American assistance should be used to reduce or avoid inflationary borrowing from banks of issue, or for productive purposes. We believe this suggestion is a sound one and should be embodied in definite, binding terms, so that when a European government receiving aid sells the food or fuel to its nationals, the proceeds will not be used for general spending in the government budget, but shall constitute an antiinflationary force or a direct aid to the development of the productive capacity of the country, such as road building. To insure the fulfillment of this purpose it is suggested that each country receiving such grants-in-aid make quarterly reports as to the uses made of funds received from the sale of these sorts of goods.

It should be added that making a distinction by nature of commodity between grants-in-aid and other assistance will in some cases prove to be anomalous. Switzerland, for example, will be able to pay for all its requirements including food, whereas other countries will find it less easy to repay even their loans for capital equipment. The agency administering the plan should therefore have the power to deny grant-in-aid status to relief goods when such a step would be appropriate. In spite of such anomalies, the distinction between grants-in-aid and loans will still have to be made, and the judgment by nature of commodity is probably the most useful.

2. *Industrial equipment.*—The Paris report recognizes that a major part of the industrial equipment called for in the plan, with the exception of mining machinery and agricultural machinery, would be fi-

nanced by loans from the International Bank. This is exactly the purpose for which the International Bank was established.

The International Bank has a broad charter enabling it to make loans for development and reconstruction when the borrowing country presents a sound program which gives evidence of capacity to repay the loan.

The Bank has unusual qualifications for use as a spearhead for economic reconstruction. It has a staff competent to examine the position of countries and to make sure that funds are wisely used. It is international in character, so that it is not open to the criticism of being solely an American agency. It uses private funds and makes no present call on the United States Government budget. It must consider the reasonable possibility of repayment of its loans, which involves questions of foreign exchange as well as domestic productivity. While the Bank has in theory lending power of 8 billion dollars, the United States cash and guarantee of 3 billion dollars represents the amount which may reasonably be available within three or four years.

Experience in the past has shown that projects of the sort contemplated here involve a vast amount of technical study and suggests that the number of projects which emerge after these technical studies have been completed is much less than would at first appear probable.⁷ It is probable that the present resources of the Bank will be sufficient to cover loans of this type at least for the early part of the period of the plan. But it is recommended by the Committee that, if the Bank's reserves should prove inadequate, they be supplemented, presumably by an increased United States' subscription. This recommendation is not to be understood as in any way affecting the criteria by which the Bank would determine the kind of loans it should make, or as a suggestion however remote that questionable loans should be undertaken. It is rather to be understood as a recommendation that the Bank should not be deterred by concern as to inadequacy of its reserves from making loans of this type which it would willingly make in the absence of such anxiety. It would be better policy to supplement the Bank's resources than to adopt any other method of operation.

3. *Raw materials and short-term projects.*—In between the requirement for food and fuel and the projects which could be financed by the International Bank there lies a middle area of needs which is not as closely defined or detailed in the report of the Paris Committee. In this area are raw materials, perhaps agricultural machinery, repair parts, and manufactured goods. These are the sorts of things which are necessary for an increase in production, but they are not properly regarded as equipment or suitable for financing under the World Bank. Neither are they properly matters for grants-in-aid, as are food and fuel.

The United States Export-Import Bank is now financing shipments of cotton to Italy and Germany under such plans. With any improvement in conditions in Europe a substantial amount of the movement of raw material should be financed commercially, and this should reduce the amount which has to be financed under the Marshall Plan. Gradual transfer of this financing to commercial channels should be encouraged.

As a method of financing to accomplish those various purposes the Committee proposes that the United States Export-Import Bank, which is already operating in this field and has the personnel and experience, should be entrusted with the administration of this part of the program, under general policies to be determined by the Congress and by and under the direction of the new organization created to administer the program. Since this business is different in its general objectives and prospects of repayment from the present business of the Export-Import Bank, that Bank should set up a special department and be furnished with special funds for this particular function. The exact amount of the funds required is difficult to determine far in advance, but the first year's needs might be of the order of magnitude of 2 billion dollars. Funds for this purpose should not be tied, but should be available to spend anywhere and the goods moved in any ships. Purchases from other countries will at times lessen inflationary pressures in the United States.

As a mechanical means for assuring the maximum repayment to the United States, with a minimum of burden on the foreign exchanges, it is suggested that, when European governments receive materials under this plan and sell them to their nationals, they deposit the proceeds in local currency in trust accounts either in the central bank of the country or in one of the large commercial banks, under the guarantee of the central bank and government with respect both to the payment in local currency and the guarantee of the gold value of the local currency.

These local currencies should be available, by mutual agreement of the United States and the country concerned only for certain specified purposes and with the undertaking that their expenditure would not constitute a burden on the foreign exchange of that country; that is, was not to be transferred into dollars. The uses for which the funds could be spent would be specified, and would include the purchase of strategic raw materials which the United States desired to stock pile, and which could be obtained either in the country itself or in its dependencies. The purposes would also include expenditures to aid in the production of the strategic raw materials, or other local currency expenditures required by the United States Government, such as expenditures for its Embassy or representatives, or expenditures for

education or cultural purposes such as those specified in the Fullbright Act.

4. *Funds for currency stabilization.*—The Paris report suggests that when the countries of Europe undertake stabilization programs they will require some dollars and gold to add to their reserves as assurance for the success of these programs. The Paris Committee indicates that the funds required for this purpose are separate and beyond the other requirements listed, and the amounts are difficult to determine, though it suggests a figure of 3 billion dollars. It may be noted first that 3 billion dollars is four or five times as large as the total amounts required in the '20s for stabilization and is a sum which seems larger than necessary if the European countries take the necessary steps to correct the maladjustments in their internal economies. With the present exchange controls and other restrictions which are exercised, the amount of reserves required for currency stabilization should not be large.

The United States Congress has already appropriated and paid in to the International Monetary Fund 2.75 billion dollars, largely out of the country's gold, for the purpose of world currency stabilization. It would not appear reasonable to ask the Congress for a further appropriation for this purpose. The statutes of the International Monetary Fund appear to make its resources available in adequate amount for any country that carries through an effective stabilization program. However, if it is the opinion of the Directors of the Fund that its resources are not so available, the statutes should be revised to make them so. It is, of course, clear that the statutes of the Fund, and in particular the interpretation placed on the Fund's operation by the American Congress, prohibit the use of the Fund by any country which has not taken adequate steps to place its internal economy in balance, and so would be using the Fund without prospect of repayment. The use must be "temporary," and that surely means that it must be in connection with sound programs which have prospect of placing a country in position to make repayment. A sound currency stabilization plan is certainly a major, if not the principal step in this direction for the countries of Europe.

C. General Comment on Methods of Financing

It is impossible for anyone to say at the present time exactly what amount of outside help Europe will require for its economic rehabilitation, nor do we know within several billions of dollars the amount of economic aid that Europe will need and that the United States will be in a position to give. The range of 3 to 3.5 billion dollars for grants-in-aid, for example, or the order-of-magnitude figure of 2 billion dollars for the Export-Import Bank are not proposed as actual

appropriations. Some of these needs may be covered by other means, such as the separate appropriation for Germany. These sums should therefore not be regarded as suggested appropriations. Nor should the Congress of the United States commit itself for large sums years in advance. However, it is essential to give Europe a pledge of our interest in its wellbeing; to give it assurance that its needs for equipment will have thoroughgoing and continuous consideration and assistance, to provide the same facilities in the field of raw material, and set a pattern for dealing with food, fuel, and fertilizer requirements from year to year as the situation clarifies itself. Such a clear indication of our intent should make it possible for the European countries on their part to go forward with the economic changes which are required to bring them to a self-supporting basis, to key up their production, to stabilize their currencies, and to set themselves wholeheartedly toward that measure of mutual cooperation, which pursued vigorously for a period of years will bring them all better living standards and greater assurance of peace.

D. Financing Purchases Outside the United States

All the discussion of financing up to this point has been directed to the problem of financing goods supplied from the United States. But financing imports into Europe from other parts of the world is nearly as urgent and is a great deal more complicated. European recovery can be prevented or halted just as effectively by an inability to obtain wheat from Argentina and Canada for example, as it could by a lack of dollars to buy foods from the United States. Many of the materials and products which Europe needs most urgently are in short supply here. For these items it is clearly in the interest of the people of the United States that European countries buy a maximum proportion of their imports elsewhere.

A number of the countries which supply Europe with food and raw materials have been generous in extending aid in the last two years. They have shipped goods to Europe in excess of the European exports they received in return. Several of these countries, notably the British Dominions, have covered the trade deficit with grants and loans. Others have accepted blocked European currencies in payment. They have shared with the United States the task of extending assistance for European rehabilitation.

It is to be hoped that they will continue to do so to the best of their ability. However, a number of these countries are beginning themselves to experience serious difficulties. For instance, Canadian imports from the United States are currently (as they regularly were before the war) much greater than their exports to us. At the same time they export more to Europe than they receive in return. The inability of their European customers to pay them in dollars has re-

sulted in a heavy drain on their monetary reserves. Certain of the Latin American countries are in the same position. Moreover, with a standard of living lower than our own, they do not have a large margin of resources out of which to support extensive aid to Europe.

So far as the Eastern Hemisphere is concerned, no serious problem arises. The European countries as a group expect their exports to the Eastern Hemisphere almost to equal their imports from that area in the first year of the program and they expect their exports to exceed their imports from the Eastern Hemisphere over the whole period. However, the problem is acute in the case of Canada and Latin America.

Even after adjusting European import estimates for the availability of supplies, there is reason to believe that the deficit of the participating countries in their trade with Canada and Latin America will amount to between 1.9 and 2.1 billion dollars in the first year. It is the judgment of the Committee that dollar exchange will have to be made available to the European governments to finance a substantial part of this deficit. The details as to the timing and extent to which dollars should be made available for this purpose ought to be left to the administrator of the agency charged with the execution of the plan, for whom guiding principles on this point should be laid down by the Congress. Such guidance should allow the administrator considerable flexibility as to the proportion of the total sum at his disposal that he spends, or supplies to the European governments for them to spend in other Western Hemisphere countries. He would, of course, be under all the usual restrictions as to the total amounts to be spent for a particular purpose. It must be emphasized that the imposition of a strict upper limit might well increase the total cost of the program and intensify inflationary pressures in the United States.

E. Relation to the Budget and Inflation

This country, and in fact the whole world, is in the midst of a great price inflation. Keeping this inflation under control here is important not only for us but for other countries, for the United States today holds the economic key to the civilized world. So it is essential that we pursue policies that are not only generous and helpful in the aid they give other countries, but which are also consistent with economic stability.

Any substantial program of foreign aid is inflationary in its tendency, for the purchase of goods to export distributes purchasing power, but the goods themselves are shipped abroad; so that the amount of goods in this country which people may buy is reduced. In view of this inflationary tendency of foreign aid it is especially necessary that the method of financing should be noninflationary. The broad

principle is that government spending which is paid for by taxes is less inflationary than that paid for by borrowing.

A number of proposals have been made for financing foreign aid by some special sorts of borrowing from the public. They do not stand up under analysis, for the Government is already borrowing from the public through savings bonds and various other issues adapted to different types of buyers about all that the public can buy. Additional borrowing would almost inevitably mean a further increase in bank credit, which is inflationary. The conclusion from this is that the cost to the Government of the foreign aid program must be met out of taxes, not by borrowing. That is, the funds must be provided within a balanced budget. Further, in view of the present inflationary tendencies, it is of great importance that the budget should show better than a balance, and there should be a surplus left over to retire debt.

There is still another reason why we must finance the aid program well within a balanced budget. Other countries as part of this program are undertaking to stabilize their currencies, which will mean balancing budgets and reducing the excess money supply. We ourselves must exercise leadership.

Fortunately under present circumstances this country should be able to meet essential requirements of a European aid program within a balanced budget, leaving something over for debt retirement and tax adjustments. In August the President estimated that the government budget for the current fiscal year ending next June 30 would show a surplus of 4.7 billion dollars. This estimate included expected expenditures of 4.3 billion dollars for international affairs out of appropriations already made, but it included no estimates for additional amounts which might be appropriated under the Marshall program. This budget estimate has proved to be conservative. Thus it would be possible to add 2.5 billion dollars to the expenditures for foreign aid in the current fiscal year and still leave a substantial surplus, provided that expenditures in other directions are not increased. Such an addition would bring the total estimated expenditure for foreign and international affairs aid in this fiscal year to about 6.8 billion dollars.

Looking beyond the current fiscal year it is of course hazardous to project the level of government receipts as they reflect business activity. Domestic expenditure should show some further reduction as wartime organizations and obligations are liquidated. The requirements for the second full year of aid to CEEC countries should, with any reasonable screening, be less than the first. Thus the conclusion appears to be justified that with governmental economy at home, and with a continuance of a high level of business activity, we should be

able to finance a reasonable foreign aid program well within the limits of a balanced budget.

F. Summary of General Principles for Financing Aid

From the foregoing it appears clear that additional aid which may be given to Europe under the Marshall Plan should conform to four broad general principles.

First, we must help Europe to help itself, through developing its own resources and opening up the channels of private trade and financing. Confidence in the soundness of currencies is a first essential step, and this in turn means balancing budgets and stopping government borrowing from central banks.

Second, there must be encouragement of private capital to go to work in Europe. In addition to currency stability this means the reduction of endless restrictions and regulations and a freer movement of men and money. It means also setting up the machinery of aid in such a way as to stimulate rather than supplant the normal markets.

Third, a clear distinction should be drawn in methods of financing and administration between emergency relief—the food and fuel program, which should diminish rapidly, will call for annual appropriations, and may well take the form of grants-in-aid—and reconstruction—the more permanent building of recovery. In the field of reconstruction we should emphasize the use of more normal channels, should contemplate loans rather than grants, should use various existing international agencies to the full, and should use the resources of private enterprise.

Fourth, the impact of the program on the United States must be cushioned. While the amounts involved may seem modest compared with our total resources, they are marginal amounts in the economic sense with respect to our foreign trade, and with respect to the demands on our commodity markets. But it must be kept in mind that these marginal amounts may tip the scale between stability and inflation. Likewise, the agencies which execute the program must adapt their operations from time to time to the condition of our markets, and always have regard to the essential need for economic stability in the United States as a keystone to world recovery.

If these principles are followed rigorously and persistently and with good will there is reason to believe that the United States has the means to meet the critical needs of Europe.

VII. The Economic Impact on the United States

The economic effects of a European aid program on the American economy cannot be measured with precision. Under the procedure suggested in this report, the United States, while agreeing to provide European aid, would set a figure only for the first year and fix figures

for subsequent years as developing conditions allowed. With no overall magnitude established, and with future availabilities of many items uncertain, it is not possible to foresee the impact in detail.

It is possible, however, to examine the character of the impact. Such an inquiry may be directed either at the way in which the whole program, as the sum of its aggregates, will affect the United States, or at the way in which shortages of particular commodities will exert their influences.

The first course calls for an investigation of the American foreign trade position, as it has stood recently, and as it might stand if a European aid program were adopted. Tables 9 and 10 show the means used by foreign countries to finance purchases from the United States during the second quarter of 1947, and the means that they will have available in 1948 on the basis of two alternate assumptions.

The first hypothesis supposes that the suggested program of foreign aid is not adopted. Under this assumption total Government aid to all foreign countries in 1948 would be about 1.8 billion dollars for the year if new appropriations for the occupied areas were made for the fiscal year 1949. The second assumption is that sufficient aid will be granted to meet the total deficit indicated in the CEEC report.

As indicated in Table 9, total expenditures by the CEEC countries in the United States in 1948, under the first assumption, might be about 4 billion dollars, with expenditures by all countries totaling 12.6 billion dollars. The annual rates for the second quarter of 1947 were, respectively, 7.43 and 21.16 billion dollars.

If aid is extended to meet their full deficit, expenditures by the CEEC countries in the United States might reach 7.3 billion dollars in 1948, while expenditures of other countries might amount to 10.8 billion dollars. The total would be 18.1 billion dollars. This is well below the rate for the second quarter of 1947 and somewhat below the estimated rate for the whole year.

The difference of 4.2 billion dollars between the 7.5 billion dollars of financing available to CEEC countries under the second assumption, and the increase of 3.3 billion dollars in their expenditures in the United States under the same assumption may be explained as follows:

1. Even under the first assumption, the CEEC countries are presumed to use 2.4 billion dollars from the United States, the International Bank and Fund, and their own resources. (This sum is included in the 7.5 billion dollars under the second assumption.)

2. The rest of the 4.2 billion dollars, which amounts to 1.8 billion dollars, represents balance of payments deficits between CEEC countries and the rest of the world. It must be met out of gold, dollars, other assets, or United States aid if essential commodities are to be procured in the required volume outside of the United States.

Table 9.—Sources of Funds Used for Payments to the United States, Second Quarter 1947, and Estimates for 1948
[Billions of dollars]

	Second quarter 1947 at annual rate			Estimate for 1948 if no assistance is granted under Marshall Plan			Estimate for 1948 if full trade deficit of CEC countries is financed		
	Conference plan countries	Other countries	Total	Conference plan countries	Other countries	Total	Conference plan countries	Other countries	Total
United States imports of goods and services, including private remittances.....	1.81	6.07	8.78	11.6	6.6	8.2	11.6	6.6	8.2
U. S. Government loans and aid.....	5.76	1.48	7.24	9	9	1.8			
United States private investments, net 2.....	- .16	.84	.68		- .1	- 1		.9	
Dollars provided by World Bank and Fund.....	.59		.59		.2	.6	7.5		8.9
Liquidation of foreign dollar assets, including newly mined gold.....	1.93	2.74	4.67	1.1	31.0	2.1		31.2	
Less: Dollars paid to other areas.....	-2.20		-2.20						
P.P.S.: Dollars received from conference plan countries.....		+2.20	+2.20				4-1.8	+1.8	-1.8
Errors and omissions.....	- .30	- .50	- .80						+1.8
Total dollars spent in United States for goods and services, income on investments, and amortization of U. S. Government loans.....	7.43	13.73	21.16	4.0	8.6	12.6	7.3	10.8	18.1

¹ Excluding imports the payment for which is assumed not to become available to the monetary authorities of the exporting countries.

² Net of repayments of principal on loans.

² Official and private assets, i. e. net of any increases in private dollar holdings.

⁴ Including payment of the deficit of the dependent territories of 0.26 billion dollars.

Table 10.—Dollar Exchange and Direct Aid Utilized by Foreign Countries, Second Quarter 1947, and Estimates for 1948
[Billions of dollars]

	Second quarter 1947 at annual rate			1948 Assumption I (conference plan rejected)			1948 Assumption II (conference plan accepted)		
	Conference plan countries	Other countries	Total	Conference plan countries	Other countries	Total	Conference plan countries	Other countries	Total
Expenditures for:									
Earnings of United States investments abroad.....	0.07	0.85	0.92	0.1	0.6	0.7	0.1	0.8	0.9
Repayments on Government loans.....	1.09	1.01	2.10	1.2	0	1.2	1.2	0	1.2
Services.....	1.06	1.67	2.72	1.5	1.1	2.6	1.9	1.3	3.2
Goods.....	6.22	11.20	17.42	3.2	6.9	10.1	16.1	8.7	24.8
Total expenditures in United States.....	7.43	13.73	21.16	4.0	8.6	12.6	17.3	10.8	28.1

¹ Including private remittances in kind of 0.2 billion dollars.

As a result of reductions proposed in the present report, spending by CEEC countries would be reduced by about 1 to 1.5 billion dollars, and re-spending of dollars received from CEEC sources by other countries would be reduced \$.25 billions. Thus, total expenditures in the United States under the second assumption would be reduced from 18.1 billion dollars to about 16.5 to 17 billion dollars. If, therefore, the foreign aid program proposed by the Committee is granted, total exports will be some 4 billion dollars below the annual rate of the second quarter of 1947, and probably some 2 billion dollars below the average for 1947. If the impact of an aid program may be measured by the aggregate dollar magnitude, it would be less under the program proposed in this report than the pressure which has resulted from the recent rate of exports.

In any case, over-all aggregate figures are not of primary importance in gauging the impact of the program upon the American economy. It is of interest to know that the aggregate productive capacity of the United States appears ample, and that the goods distributed in Europe would constitute but a small percentage of the aggregate production of the United States. It is useful to know that net exports over the next 4 years would presumably be considerably less than in 1946 and 1947. But such computations shed little light upon the real effects of the aid program upon the American economy.

The real effects of the program arise out of special situations. If the American economy is pinched at certain spots or sectors, this may lead to serious repercussions throughout the entire economic structure. Even though the total sum of money spent for purchase in the United States of scarce commodities is small relative to the national income, its expenditure can set off a chain of inflationary reactions. In the case of foodstuffs and other commodities the prices of which are highly sensitive to changes in supply and demand, purchases for export could have a marked effect on the cost of living and set off an upward spiral of costs and prices. In the case of a basic material such as steel, the inflationary impact may be felt in the form of pervading scarcities throughout the industrial structure.

Of all the commodities considered in this report, the one which is scarcest, and the one which represents the largest single portion of the foreign aid request, is food. According to one view the persistence of high food prices since the war has been due chiefly to domestic demand, and the influence of food exports has been minor and secondary. The Committee believes that this opinion overlooks the importance of marginal demands, and that the extra food withdrawn from the domestic supply by exports has made a real difference in food prices. Through 1946 and the first half of 1947 the continuance of large foreign shipments helped to prevent an anticipated decline in agricultural prices, while the recent rise in foreign requirements,

contributed to increased prices for other foods.

A sharp rise in the price of food has serious repercussions throughout the economic system. Food is the most important item in the family budget, and because purchases are made daily, rising prices bring quick and insistent demands for compensating adjustments in wages. Such wage increases, resulting largely from rises in family food costs, have been granted freely in the past in order to avoid work stoppages which are still more expensive. These wage adjustments have led to advances in prices of industrial products. If further sharp advances in food prices occur, another turn in the wage-price spiral may be expected. Another upswing in wages might benefit some groups of workers. But many others, especially salaried workers of various classes, would suffer.

The impact in this quarter, then, is clear. The billions of dollars which would be expended for foodstuffs under the plan would, of themselves, have no serious effect on the economy. But the withdrawal from American markets of the food which they would purchase would exert a seriously inflationary effect.

The fertilizer situation is of course directly related to the food production problem. American agriculture would readily absorb the full output of the fertilizer industry, and increased quantities are needed if we are to render maximum aid to Europe. But, on the other hand, European agriculture stands in even greater need of additional fertilizers. It is the view of this Committee that sound policy dictates a substantial allocation of our nitrogen supply to Europe next season. Even if this means smaller agricultural production here, it would, on balance, mean a gain in the over-all food situation.

The cotton situation is analogous to that of food, though not so important. The supply of raw cotton is not adequate to meet both foreign and domestic requirements this year; hence the rise in price may be considerable. It is possible also that allocations of cotton to meet foreign requirements might materially restrict the supply of cotton fabrics available for domestic consumption. Since the price of cotton textiles is closely linked with the price of raw cotton, and since cotton goods are an important item in the family budget, the rising price of raw cotton will directly contribute to the pressure for compensating wage adjustments to meet the rising cost of living.

The case of coal is intermediate between that of food, in which the impact is directly on prices, and that of steel, where the shortages caused by exports would retard industry.

The current level of coal production is high enough to make possible the required shipments to Europe without leaving deficiencies here. Except for certain high-grade varieties, prices do not appear to have

been much increased by the large foreign demands. It is of note also that after the first year European requirements should steadily decline.

The steel problem is one of great complexity and difficulty. Notwithstanding the expected increase in steel production capacity in 1948, the supply will not be sufficient to meet over-all requirements. The supply of certain kinds of steel has been far from adequate during the present year, and this situation may be expected to continue. A greater allocation of steel to meet foreign requirements would thus restrict the possibility of expanding United States production in such important fields as farm machinery, automobiles, and building materials, not to mention a host of lesser products made from steel.

A special difficulty arises from the fact that Europe requests chiefly scrap and semifinished products, and these we cannot furnish without curtailing our steel production. It is the Committee's view that finished and limited quantities of semifinished products can be supplied without serious effects upon our economy.

It is not expected, however, that the price of steel will be greatly affected by foreign requirements. Additional allocations would presumably be met from two principal sources: (1) shifts from other export markets to Europe, and (2) increased production in the United States. The over-all demand and supply situation would thus not be greatly different from what it is at present. Moreover, in the case of steel, prices are more largely determined by the general level of wages and other costs than by fluctuations in market demand and supply. Accordingly, the repercussions of European steel requirements upon the American economy as a whole will be less serious than those arising from the food situation.

Specific labor shortages are likely to arise in some communities due to an expanded demand for particular commodities. But our war-time experience demonstrated that we could expand the labor force beyond its normal limits if necessary. The problem, however, would become increasingly difficult.

The total picture of the foreign aid program's impact on the domestic economy makes it clear that we will have to make some sacrifices if we agree to carry out such a plan. Without attempting to disguise the fact that such sacrifices will be called for, we should examine the ways in which we can minimize them, mitigate their effects, and spread the burden equally among the whole people.

There are many measures which would dampen the domestic impact of a European aid program, and make exports available in the required volume. This Committee cannot undertake to plan such measures, or even to specify what control powers should be made available to the executive agencies. The Committee believes, how-

ever, that the responsible agencies will require extension of certain authority based on existing legislation which will soon expire, such as export licensing authority, and authority to issue priorities for export orders and to expedite shipments. The appropriate agencies should recommend to the President at once partial restoration of those limited war powers which they believe to be necessary in order to carry out an economic assistance program with minimum adverse effects upon the domestic economy. At the same time each agency should also start to work out the details of the specific administrative controls for which they request authority.

Foreign demand for particularly scarce items has been reduced during 1947 and must continue to be reduced by export controls. These controls serve the double function of protecting the essential requirements of the domestic economy against undue diversion of critical resources from this country, and of securing equitable distribution of scarce commodities among the various foreign purchasers. At the present time, the Department of Commerce administers a limited program of export controls. It is imperative that the authority for export controls be continued as long as any substantial economic assistance is being extended to foreign countries. It is equally imperative that sufficient appropriations be made to permit expansion and improvement of export controls so that they can be used to allocate supplies of all critical items more effectively among competing claimants.

The control of foreign demand is one side of the problem, but the other and more difficult side is that of devising means to make available for export goods that are in short supply, by reducing domestic demand or otherwise. Voluntary measures to reduce demand are the easiest to put into effect and should be relied on wherever they are effective. If and where they are not, the Government will probably require the authority to set priorities for the purpose of insuring the availability for export of limited amounts of the most critically needed items. It might also have to issue limited conservation orders, to control the consumption of critical materials, such as those still in effect for tin. Especially in the field of food and agricultural commodities it might be necessary to use the device of requiring that limited quantities be "set aside" for export. Any actions of the sort here instanced or contemplated would operate at the producer level and their effects would be felt only indirectly by consumers. Such devices would almost certainly be adequate to enable the foreign aid program to be carried out and they would help to dampen its domestic effect upon particular markets for particular goods.

It must be emphasized that these suggestions are made in connection only with the foreign aid program and not with the broad problem of

inflation. The Committee is convinced that inflation is a serious current threat to the stability of the American economy. But any consideration of a program to control inflation would have been beyond its competence and its terms of reference.

VIII. The Administration of a European Recovery Program

A. The Importance and Nature of Administration

The administration of any plan of European economic assistance will be vital to its success. A strong and flexible administrative organization will be essential because the execution of such a plan will involve much more than the mere efficient putting into effect of a fully developed program.

The construction of a detailed program is impossible at the present time. The policies and the over-all limits can be established now. But the innumerable operating decisions which will have to be made in the course of carrying out the plan cannot be reached in advance. It would be obviously impossible to decide now, as a single example, exactly how much grain may be needed in France or in Belgium in 1950, how much will be available from the United States and how much from other sources, or how it should be shipped. Future decisions on these and a great number of similar questions will depend on a variety of interrelated factors which cannot now be accurately forecast. In order to get the maximum benefits from a plan with the minimum detriment to the United States economy, no attempt should be made, either by the Administration or the Congress, to prejudge the operating decisions which will have to be made, and probably often revised, during the life of the program. It is with this conviction that the Committee has, in numerous places throughout the preceding parts of this report, assigned to an administrator of the plan what have seemed to the Committee to be clear operating problems.

It is both possible and necessary, however, to make the over-all decisions as to general policies and limits, which will define the continuing character of the program, permit the participating countries to make their plans, and enable both America and Europe to attain the objective set forth in the Paris report.

The Committee does not oppose the setting of over-all limits on assistance given under the plan, to the extent that such limits can be set consistently with annual appropriations. On the contrary, such limits must be determined in general terms, and must not be exceeded without the consent of the Congress. But the Committee insists on the distinction between general over-all limits on United States' assistance and limitations concerning specific needs of a particular country at any given time.

The need for flexibility makes it imperative that the attention of the administration and the Congress be directed to (1) the functions which are essential to the plan; (2) the basic principles and policies which should be followed; and (3) the establishment of a strong administrative organization to perform its functions in accordance with the policies and principles laid down for its guidance.

To achieve continuity and flexibility, it is imperative that the plan be plainly carried out in a nonpartisan manner and in the best interests of the country as a whole. If these recommendations for a flexible framework and for a grant of power to make major operating decisions are adopted, the need to secure and retain the support and confidence of the country becomes especially important.

This raises the question of the relations of the Congress to the administration of the plan. Since this is a matter peculiarly within the jurisdiction of the Congress, it is not appropriate for the Committee to make specific recommendations. It, nevertheless, wishes to stress its belief that the Congress should have close relations with the administration of the plan; this might be accomplished through existing congressional committees or by a special joint committee of the kind created under the Atomic Energy Act, or in some other fashion. Such a relationship is important to the success of the plan, both because it would keep Congress in closer touch with all developments and because it would give the entire country greater confidence in the manner of the plan's execution.

B. The Functions of Administration

Many of the functions which will have to be performed are discussed at length in other parts of this report, particularly in the several recommendations as to the principles and policies which should be followed. The problems are summarized here only as a background for a discussion of the administrative aspects of the plan:

1. *Evolving a specific program.*—It will be necessary to translate the over-all plan into a program of particular items required for specific purposes on fixed dates. This should be done only within the general limits and policies established at the start of the plan. But, while it is possible now to make a very general decision that the United States can wisely and safely supply certain quantities of goods needed for European recovery, it will be necessary constantly to review the over-all estimates, and also to make certain that furnishing a particular item or class of items within the total estimate will likewise be safe and wise for us and necessary for Europe. At least three different methods of handling this problem are likely to develop.

In the case of bulk items such as wheat, coal, and fertilizer, the participating countries may develop quarterly or annual programs based on the amounts determined to be available in the United States

or elsewhere. These programs would be considered, modified if necessary, and then presented to the allocation authorities to cover the indicated period. Such commodities are now being programmed successfully by international organizations, and these arrangements should be continued. But if the existing international organizations should at any time in the future prove to be unsuccessful, similar organizations consisting of the participating countries and the United States should be formed.

In the case of scarce equipment made for a particular purpose, it will be necessary specifically to examine the need for the items, the effect on United States users of similar equipment, the ability of producers to supply them, and the financial and general effects of the transaction.

In the case of items not in short supply in the United States, consideration may be limited to the availability of funds for the purchase, the effect of the transaction on foreign exchange, and related problems. As the volume of assistance diminishes with growing European recovery, less and less detailed work will probably be required.

2. *Procuring the goods.*—Approved items will have to be moved to the participating countries. In the case of many commodities this will involve only making funds available to the prospective purchaser, either by direct grant, by direct loan, or by arrangements for financing through other agencies such as the International Bank or the Export-Import Bank. Government procurement should be used as little as possible, though in some cases it may be necessary and the authority for the Government to buy directly should therefore be provided. The participating countries should be urged to use private means of procurement as much as possible. In addition to financing purchases, other problems may arise when the needed commodity is scarce. In such cases purchases may have to be coordinated to prevent undue disturbance of the United States economy, particularly in the form of increases in price. Export controls, priorities, and allocation powers may be needed to lessen the adverse effect on the domestic economy of supplying the items, and to expedite the program.

3. *Relating the program to foreign policy.*—It will be necessary to coordinate the foreign economic policies of the United States and of the participating countries with the plan. One of the fundamental purposes of the plan, for example, is to aid in stabilizing the currencies of the participating countries and in solving their foreign exchange problems, thus bringing about freer convertibility of currencies. These and other related ends may require coordination of import and export controls to obtain imports of needed commodities or to dispose of surpluses of exportable commodities to participating or non-participating countries. Domestic fiscal and monetary arrangements, such as the establishment of adequate reserves, may also be involved.

While many of these issues are being handled by the International Fund and other existing international organizations, and while others are currently dealt with by the State Department, they acquire new importance in connection with an integrated recovery program, and the way in which they are handled must be coordinated with the administration of the plan.

4. *Following the program abroad.*—It will be necessary to keep in touch with the participating countries and their continuing central organization in order to get information enabling the American authorities to sponsor the requests for materials, to satisfy the United States that the assistance supplied is being put to the use for which it was intended, and to see whether production goals and financial goals such as those set forth by the participating countries in the Paris report are being met.

It should be made a condition of continued assistance under the plan that the participating countries take all practicable steps to achieve the production and monetary goals set by the participating countries for themselves in the Paris report. Failure to make genuine efforts to accomplish these results would call for the cessation of further assistance under the program.

Aid from the United States under the plan should not be conditioned on the methods by which the participating countries reach these goals, so long as the methods are consistent with basic democratic principles. Continued adherence to such principles is an essential condition to continued aid under the program, but the Committee does not believe that this condition should extend as far as adherence to any form of economic organization, or should require the abandonment of plans previously adopted in a free and democratic manner which call for a different form of economic organization. While the Committee firmly believes that the American system of competitive free enterprise is the best method of obtaining high productivity, it does not believe that this program should be used as a means of requiring other countries to adopt it. In the judgment of this Committee, the imposition of such conditions by the United States would constitute an unwarranted interference with the internal affairs of friendly nations.

In order that policy questions may be considered and decided with full knowledge of the factors involved and the results which may be realized, the Committee recommends that a board of directors be established for the purpose of making broad policy decisions. The heads of the departments interested in and affected by the program should be members of this board, and consideration should be given to the inclusion of public members as well. The head of the new organization should be chairman of this board. The functions of this board should be limited to decisions on broad policy questions; the board

should not take part in the actual operations or the operating decisions of the new organization.

An advisory group should also be created consisting of representatives of the public, business, agriculture, and labor, to consult with and advise the head of the new organization. This group might be similar to the one which serves the Office of War Mobilization and Reconversion. It would bring to the new organization the views of large segments of the country. It would also assist in maintaining public confidence that the program was being carried on in a non-partisan manner and in the best interests of the country as a whole.

In order to carry out the functions which organization should exercise, the utmost flexibility and the minimum of red tape are vital. The new organization, in its housekeeping arrangements, should be free from the restrictions applicable to permanent Government agencies. For example, it should be able to hire and discharge employees without regard to the normal civil-service rules, with wages and safeguards not less favorable than for regular government employees, so that competent employees can be obtained by the organization. It should be able to make, amend, and cancel contracts freely. It should have as much freedom as possible from the detailed accounting and budgeting problems of the agencies. The Committee recommends that consideration be given to the use of the corporate form of organization, as a means of accomplishing this flexibility.

C. The Execution of the Administrative Functions

In order to execute the functions indicated above, and to make the decisions required by the operation of the plant, the Committee makes the following recommendations for organizational framework:

1. *The establishment of an operating agency.*—The Committee recommends that a new organization be set up in the United States Government to administer the program of European economic assistance. This recommendation is made partly because a new organization could be directed solely to the purpose of carrying out the program, without being influenced or hampered by different purposes. In addition, the Committee feels strongly that the program is of major importance, and should not, in fact or in appearance, take the form of an added duty imposed upon an already busy official or group of officials. On the contrary, the Committee feels that the position of the head of the organization in the Government, as well as the powers and form of the organization, should be such as to make the job attractive to the most capable men in the United States. The head of the organization should be appointed by the President and confirmed by the Senate.

This new organization will be primarily performing an operating job. Experience has shown that such a task cannot be done effectively by a commission or committee. Accordingly the Committee recom-

mends that the operations of the organization should be entirely under the control of its own head. Requiring him to get the approval of a board or committee before making specific operating decisions would make it almost impossible to carry out the program, and would also make it doubtful whether a capable man could be found to administer it.

In a program of the kind proposed there will be many questions of broad policy to be determined, within the framework laid down by the Congress. These questions of policy will involve the foreign policy of the United States, and domestic policies with respect to agricultural and fiscal matters, prices, and domestic supplies of commodities. These policy questions are of vital importance to other Government departments, particularly the State Department.

2. *The agency's relations with the Department of State.*—One of the most important organizational problems is the relation between the Department of State and the new organization. The plan can be successful only if the new organization carries out its functions with full recognition of the fact that the Secretary of State, subject to the direction of the President, has the responsibility for determining the foreign policy of the United States. The European recovery program will, upon its approval by this country, become an important part of the foreign policy of the United States as it relates to the participating countries. By the terms of their proposal the participating countries will undertake where necessary to strengthen their national currencies by means of adequate fiscal and monetary controls, to modify and exercise their import controls, and even to control their trade relations with non-participating countries in such a way as to carry out their commitments under the program. As it develops the program will require close and continuous cooperation among the countries themselves, and with the United States. It may also involve problems concerning blocked local currencies set aside in payment for materials shipped under the program, and arrangements to obtain for stockpiling strategic and critical materials needed in the United States.

These activities will be an important function of the new organization and its head must have authority to act with respect to them. Because of the importance of these activities to the foreign policy of the United States it is vital that the Secretary of State have a leading voice in the deliberations and policies of the new organization. The Committee recommends that the Secretary of State be a member of the board making major policy decisions for the new organization. Furthermore, the new organization must work out effective means for cooperation with the Department of State concerning those major operating questions which have an important bearing on the foreign policy of the United States.

3. *The agency's operations abroad.*—The new agency should have representatives in Europe to deal with the participating countries or any organization set up by them. These representatives would have the job of investigating requests from the participating countries and of screening them to make sure, on the one hand, that they are necessary and, on the other, that they are adequate to accomplish the desired results. The new organization would thus get factual evidence to support its claims in the United States that European needs outweighed the needs of the domestic economy. These representatives should also be in a position to make sure that the materials and supplies sent over are put to proper use and that the commitments of the participating countries are met.

In view of these overseas functions it is essential that the new organization have a chief representative in Europe, reporting directly to the head of the new organization and responsible to him, for consulting with and advising the organization set up by the participating countries and also for the purpose of coordinating the activities of the various local representatives of the organization in the participating countries. As this chief representative's duties will extend to all sixteen of the participating countries and to Western Germany, he cannot be within or under the jurisdiction of any one embassy but he should consult with and keep the Ambassador in each country advised on matters affecting that country. Because of the uncertain nature of the organization which may be set up by the participating countries, it is not possible to make any recommendations as to the degree of responsibility which should be given to this representative. This should be left to the discretion of the head of the new organization, acting with the approval of the board.

The representatives directly assigned to the various countries will have to report to and be under the direct control of the head of the new organization. At least one representative will be needed in each country, as well as such additional assistance as necessary from new employees or employees assigned from the foreign service. While these staffs might be physically located in the various embassies, and for administrative purposes might be cared for by the embassies, it is important that they should clearly be responsible to the head of the new organization, and should report directly to him and not through the Ambassador or the Department of State. Any foreign service employees assigned to him should be responsible to him. The Ambassador must be informed of all their activities and have access to all their communications, but he should not have the authority to censor or hold up any reports to the new organization in the United States. The Committee is convinced that this direct reporting and clearly centralized authority is vital to the successful operation of the new organization.

On the other hand, it is essential that the unity of American representation in each country should be preserved in the Ambassador and that there should not be two representatives of the United States in the participating countries. The local representatives of the new organization, in addition to investigating and reporting, will undoubtedly find it necessary to discuss various aspects of the program with the participating countries in which they are located. In many cases discussions will be of a technical nature which can best be handled by these local representatives dealing directly with technical officials of the country involved. In other cases they will involve questions of sufficient importance to our foreign policy so that the Ambassador should deal with them himself. In either case, the Ambassador should coordinate and control all these discussions.

4. *The agency's operations at home.*—When the requirements of the participating countries have been checked and screened by the organization, it will have the general responsibility for acquisition and delivery. This will involve first a decision as to whether the items, individually and as a part of the total program, can be wisely and safely exported by the United States. In these recurring decisions, there must be taken into account not only American requirements but also the requirements needed to maintain the economics of other countries and to carry out our foreign policy in other parts of the world.

The Committee feels that these decisions as to the relative needs for particular commodities of the participating countries as a group, as compared with the needs of the United States and as compared with the needs of other foreign countries, should not be placed in the hands of the new organization. The new organization should not be empowered to decide what the total amount of our exports of any commodity should be, or what share of the total amount of exports should go to the participating countries, though it should, of course, be empowered to decide how the amount allocated to the participating countries should be divided among them. While there would be advantages in centralizing the powers completely in one man's hands, these are outweighed, in the Committee's opinion, by the disadvantage of making one man both advocate and judge.

It would be preferable to place these decisions in the hands of agencies able to balance the respective claims impartially and wisely after taking into consideration both the claims of the new organization and the claims of the United States and the rest of the world. The Congress, in the Second Decontrol Act of 1947, has most recently expressed its intentions by delegating these decisions to the Secretary of Commerce, the Secretary of Agriculture having jurisdiction in the first instance over foods. The Committee recommends that any additional allocation or priorities powers which may be granted in connection with the program should likewise be exercised by the Departments

and not by the new organization. The new organization should be represented on all Departmental committees which participate in these decisions, but the Departments should have the final decision.

In this connection the Committee feels it desirable to point out that the person making the decisions as to the kind and quantity of items which can be exported wisely and safely, and the needs of the domestic economy, must be advised by representatives of the domestic economy as well as by the new organization and representatives of foreign countries, both within and without the Government. To the maximum extent practicable these decisions should be made with the advice of carefully chosen advisory committees, representative of domestic producers and consumers of the materials in question.

While the Committee recommends that the decision as between the claims of the participating countries on one hand and the claims of the United States and the rest of the world on the other hand should not be made by the new organization, the Committee recommends that all claims by or for participating countries should be initiated and approved by it, and that it should have power to deny or reduce any allocations made to the participating countries which would conflict with or impede the program. No export priorities or export licenses should be granted for exports to the participating countries except with the approval of the new organization.

Control over the issuance of export licenses to participating countries may be of the greatest importance to the new organization. Where a participating country proposes to use substantial portions of its funds to get from the United States goods not relatively important in the achievement of its promised production and monetary goals, it seems clear that the new organization should have power to prevent this, thereby supplementing the import controls established by the participating country.

5. *The agency's role in financing.*—Since one of the principal functions of the new agency will be to finance or to arrange for the financing of European purchases, its relations with the International Bank for Reconstruction and Development, and with the Export-Import Bank will be extremely important. The Committee therefore recommends that its head be made a member of the National Advisory Council and of the Advisory Board of the Export-Import Bank. The relations between the new agency and American representation on the International Bank must be very close, in view of the Committee's recommendation that expenditures for long-term capital improvements be financed by the Bank to the fullest extent possible under its authority and policy.

The Committee recommends that the Export-Import Bank be empowered to make or to guarantee loans, under the authorization of and directives from the head of the new organization. These loans or

guarantees would be either supplemental loans for capital improvements, in the event the International Bank could not finance an entire project, or loans to finance the purchase of raw materials for industrial commodity inventories. The Committee recognizes the difficulties of one organization operating by issuing directives to another, but recommends this arrangement so as to limit the number of lending agencies involved and also to avoid burdening the new organization with the mass of administrative detail which is involved in this sort of lending operation. Amendment to the legislation establishing the Export-Import Bank is necessary to authorize it to engage in this sort of operation and to make it clear that, in such activities, it is acting solely as the agent of the new organization and subject to its directives, and is engaged in an operation entirely distinct from its regular business. If arrangements of this kind are not made, the Committee would recommend that the new organization itself be authorized to make or to guarantee the loans, in which event the facilities and staff of the Export-Import Bank should be made available for its assistance.

PART THREE: SPECIAL REPORTS

Report on the Special Position of the Bizone

A. Western Germany and the Rest of Europe

No part of the economic aid requested by the CEEC countries is more fundamentally necessary to the recovery of Western Europe than the aid asked for the rehabilitation of German industry, agriculture, and transport. The significance of Germany's position in Europe may best be gauged by a comparison within the United States. The German industrial area is analogous to the industrial district of the United States which extends from Western Pennsylvania to Illinois. If the industrial production of this area were by some calamity reduced by half, it would be obvious to everyone that the economic life of the rest of the United States would be profoundly affected—the loss of producing and hence of buying power in this great section having its repercussions in every direction.

Comparative indices of industrial production of the Bizone and neighboring countries show the lag in Germany. The index for the Bizone, in mid-1947, stood at 51 percent of 1936 and 35 percent of 1938. France, Belgium and the Netherlands range from 85 percent to 95 percent. Italy is 65 percent, Sweden 113 percent.

There is a point beyond which, without the Ruhr, further recovery in neighboring countries tends to slow down. That point has perhaps been reached. A rapid rise in Ruhr coal, steel, and machinery production would have more effect on the forward movement of industries of participating countries, and on the over-all cost of the European recovery program, than any other factor. This is not to propose raising the permitted level of industrial production, since the present rate is so far below this level.

B. Western Germany a Special Problem

The reconstruction of Germany must be handled as a special case because: (a) destruction from the war, and dismantling industrial plants under the Potsdam Agreement, have reduced industrial productivity more than in other areas; (b) the Bizone nevertheless has excess industrial capacity and much of the necessary industrial materials and facilities needed to produce substantially greater amounts of coal, steel, and machinery than at present; (c) Germans lack the facilities permitted the business men of participating countries to establish contacts abroad, to finance foreign contracts, and for the security of trade-marks, etc.; (d) the urgent necessity of reducing Germany's deficit must be viewed in the light of preventing the resurgence of a dangerous military potential; and (e) as an occupying power, the United States Government has a different relationship with Germany than with any sovereign country. The United States will, in a financial sense, be dealing with itself through the European aid plan.

The CEEC report places the deficit of the Bizone with all other countries in 1948 at 1.5 billion dollars (of which 1.15 billion dollars are with the American continent). By far the largest item is food. The assumed goal for the standard of living, in arriving at these figures, is a rate of progress which by 1951-52 will give the German people a standard of living about 25 percent lower than prewar in quantity and less in quality. Even to achieve this means a great expansion of German exports, specifically from an estimated 275 million dollars for 1947, to an annual rate of about 1.8 billion dollars by 1951-52. This will not be easy especially in view of the fact that other nations under the Paris program are trying to expand their exports, as indeed they must in order to become self-sufficient. But the fact might as well be faced that the United States would not be the gainer if Germany were too greatly handicapped, which would only mean that, having helped other nations to recovery, we would still face a continuous German deficit.

C. Evolution of Policy

Until the appearance of the European recovery plan, the military authorities were under the necessity of planning Western German recovery more on its own resources and hence less definitely and less rapidly than is now contemplated under a general aid program.

The principal stated Allied objective (Potsdam 1945) was and still is to "prevent Germany from ever again becoming a threat to the peace of the world." Steps included de-Nazification, demilitarization, industrial disarmament, reparations through dismantling industrial plants, and the preparation for "eventual" reconstruction of German political life on a democratic basis. The immediate military directives were calculated to prevent starvation or such disease or unrest as would endanger the occupying forces.

What might have been a conflict between these policies and a policy of economic recovery was hypothetical. The events proved that industrial disarmament had been accomplished by the disintegration which followed the end of the war. The problem of the occupying powers has been rather to put the economy on its feet. The condition was recognized in the change from the first (1946) to the second (1947) Level of Industry Plan.

The Level of Industry Plans were neither a set of goals nor a time schedule. They were primarily a calculated potential from which were derived the amounts of reparations (by removal of industrial plant) which would be undertaken. Steel capacity is an example. Under the 1946 Level of Industry Plan, Bizonal steel production would be limited to 4.7 million ingot tons. The Bizonal Level of Industry Plan, announced August 27, 1947, puts the figure at 10.7 million tons. For comparison, the Bizone area produced 17.8 million tons in the most active prewar year, which was 1938, and 2.7 millions in 1946.

The CEEC Report states, "Other Western European countries cannot be prosperous as long as the economy of the Western Zone of Germany is paralyzed, and a substantial increase of output there will be required if Europe is to become independent of outside support." It is stated, in particular, that machinery, raw materials, food, and other supplies which are required to increase Ruhr coal production deserve high priority. This is a substantial change in point of view. It did not come about effortlessly. There were strong economic and financial

pressures in all the countries, including the United States, pushing against political objection among the Allies to the idea of strengthening Germany. The difficulties have, of course, been complicated by the failure to treat the whole of Germany as an economic unit.

It was, in short, quite impossible 2 years ago to see how our policy was to be shaped. It would have been unreal, at the time, to begin at once to make plans for the policy which we now deem to be necessary.

D. Adjustment of Other Nations to Position of Western Germany

1. *Choice and Necessity.*—The dependence of other countries on early recovery in Germany emerged concretely, as shown above, in statements at the Paris Conference. It would be excusable to expect, however, that the recovery of Germany would be perhaps a second choice for the participating countries, the first choice being to do without Western Germany's output (now paid for in dollars) if that were possible. Three factors affect that possibility: (1) The necessity for Germany to achieve a standard of living which will prevent reaction and unrest, which is a political consideration; (2) the vital concern of France, the United Kingdom, and the United States with reducing the cost of occupation by increasing exports; and (3) the important fact that, at least for a number of years, Germany's output cannot elsewhere be duplicated.

Before the war, Germany contributed to the economic life of other countries by large exports of producers' goods. The broad fields of metals, machinery, and chemicals accounted for two-thirds of total exports. Since the war, the Bizone has made some contributions to other countries, particularly in exports of coal, power, and timber, which were also critically needed in Germany.

The goods most needed by other countries (metals, chemicals, machinery), are those about which there is most question from the standpoint of Germany's future war potential. These are the so-called restricted industries and they are the most difficult to handle in the political context. Exports from the unrestricted industries, textiles, ceramics, and consumer goods generally, would need to be increased 90 percent above prewar if they alone were to provide the higher export requirements to balance Western Germany's budget. This is obviously impracticable.

This Committee cannot express a judgment as to the military and political implications of choosing between restricted and non-restricted industries. Purely from the standpoint of economic results, German production would be useful to other countries soonest if steel goods and machinery exports were increased (within the limits of the Level of Industry Plan), at the cost of consumer goods exports.

E. Requirements for Recovery

Rapid progress in the recovery of Germany involves a number of principal developments: (a) The restoration of orderly and efficient administration; (b) the establishment of a unified currency and price system; (c) the removal of the pressure on Military Government to economize in its dealings with other countries; (d) the rehabilitation of mining, transport and manufacturing facilities of Northwest Germany, and the increase in the first instance of food rations, housing, clothing, and other immediate human necessities; and (e) the resump-

tion of normal trade contacts between the German people and the outside world.

1. *Government.*—It has been clear to all observers that German life cannot be restored without the establishment of some form of German government. Only thus can there be developed within Germany responsible agencies with powers and scope adequate to handle nationwide problems. So long as we have to rely upon local governments or independent zones operating at cross purposes, there is little hope of general economic revival in the country. Two years ago it would have been highly desirable to aim at forming a federalized government embracing the Russian as well as the British, French, and American zones. At the moment this seems almost impossible. Delay is too costly. The start must be made in the West with what we have.

2. *Currency reform.*—The first economic requirement of a start in the West is wholesale monetary and financial reform accompanied by the reorganization of the German price and wage structure. At the present time, Germany is supposed to operate with prices largely fixed at prewar levels, but with a currency that has been expanded and re-expanded until the mark is, to all intents and purposes, worthless. This “suppressed inflation”, by far the worst in Europe, strikes at every aspect of economic life. The black market is a far greater source of potential income than money wages. Incentive systems applied to one industry, such as coal mining, soon tend to lose their effectiveness, even in the industry to which they are applied, and the effect upon the nonfavored occupations is disastrous. Farmers have no incentive to exchange their products with the cities, nor have workers incentives to work. Controls multiply but cannot be enforced. There is no substitute for a stable monetary system coupled with prices which reflect real costs, as a means of restoring functional action between working and consuming. It is an American responsibility that action be taken.

3. *The economics of military government.*—So long as economic decisions have to be made by the officials of our own Military Government in Germany with a view to every possible economy in dollar expenditures, rational reintegration of Western Germany into the Western European economy will be intolerably delayed. Great waste is now resulting not only from zonal division but also from uneconomic use of resources in the effort to conserve dollars. Thus, imported materials from the United States are landed at Bremen and transported over Germany’s already overburdened transportation system instead of being handled over the water routes through Rotterdam or Antwerp, which have idle facilities. It is true that by the use of German facilities exclusively, payment can be made in marks and the direct need for dollars by Military Government minimized. We have required that goods and services purchased from the Bizone be paid for in dollars, and by so doing have created a hard-currency barrier in the middle of Europe, contrary to the principle of mutual help which we hope other European nations will follow. The immediate result may be to show a saving on occupation costs, but the final result will be to increase the total cost to the American taxpayer for German and European rehabilitation.

Growing out of the nature of Bizonal (or multi-zonal) administration is a problem of making decisions on priorities as between one zone and another with respect to their competing demands for material or

equipment in short supply. There is heavy demand to haul coal from the Ruhr to remote destinations, Bavaria for example. There are competing demands between Laender for shipment throughout the Bizone. Both these demands compete with short hauls from the mines to steel works within the Ruhr. Meanwhile, coal accumulates at the pithead while a steel plant 30 miles away is idle. The difficulty inherent in the internal government of an area by international negotiation emphasizes the importance of unified economic government for the area as a whole.

4. *Rehabilitation of industry and agriculture.*—While all the factors of industrial recovery are linked together, there is no doubt that primary attention must be paid to increasing coal production in the Ruhr. In spite of various incentive schemes applied directly to the production of Ruhr coal, production in the mines inches upward with painful slowness. Until more coal is produced, increasing the output of steel and of all industrial products, including those of such vital importance as fertilizers, is almost impossible. But coal is not the only bottleneck. Given the present state of the German transport system, not much more coal than is now being mined could be transported. Increased production will require not only American financial aid, but American technical and managerial advice. It will also require the maintenance of an adequate food supply.

The uniquely bad food position of Western Germany suggests that this must be one of the principal points of attack. The ration of the normal consumer in the Bizone today is 1,550 calories and this ration has not been fully met in some of the cities. There has been a steady decline in the health and strength of the population in those places. For 1951-52, the goal is 10 percent per capita below prewar and the composition of this diet will be inferior.

The following statistics of the Food and Agricultural Organization of the United Nations (based on CEEC reports) for 1950-51, and figures of the Office of Foreign Agricultural Relations of the United States Department of Agriculture for 1946-47, concerning dietary levels in the Bizone, are of interest:

	<i>Calories per capita per day</i>
Prewar (1933/34-37/38)-----	2,850
1946/47 -----	2,000 plus
1950/51 -----	2,300-2,700

The above are average figures and therefore obscure the differences between farm and city. They also conceal changes in the distribution of the calorie intake among different foods, such as milk, meat, and fats, which are substantially lower, and potatoes and grain (flour), which are relatively well maintained. The discrepancy in calories between the present 1,550 ration to the "normal consumer" and the 2,000-calorie consumption of the "average" person is very striking. If the distribution and equalization of food are at fault, rather than food production, the problem is one of a total change in the economics of living, including especially prices, wages, and currency reform.

5. *External contacts.*—Normal communications of the German people with the rest of the world need once more to be fully permitted. Germans lack the facilities permitted the business men of other countries to establish contacts abroad. Until German business men may once more travel abroad and carry on the usual business correspondence without interference, achieving even the minimum volume of

foreign trade absolutely essential to self-support will be difficult if not impossible.

H. Conclusion

The economy of Western Germany is like a lock which needs to be opened. The tumblers of the lock represent steel, coal, food, housing, economic reform, and many other factors. To open the lock all the tumblers must drop simultaneously. Food has been repeatedly stressed as the key. We believe that without higher and dependable food rations the rest of the program will not succeed. But additional imports of food alone will not do the job; they will be ineffective, if not accompanied by a vigorous attempt to reorganize finance, production, transportation and government, at the same time. So long as almost complete political, economic, and financial disorganization continues, no amount of outside aid would guarantee recovery. The fact is that the social fabric of Germany has disintegrated. Before the economic and political elements can be rewoven into a fabric, the human factor of morale must revive. We believe that at the present low level of health and morale and the high level of skepticism and economic frustration in Germany, the problem will not be how much aid is promised, but how much reorganization is effected and how soon.

These observations with respect to the German problem are made by the Committee on the unqualified assumption that the United States and the Allies, on making peace with Germany, will take all of the steps necessary to effect the vital end of preventing the resurgence of an aggressive Germany. It is within this frame of reference that these remarks are presented.

The only judgment the Committee has made, as being the only one which lay within its province, is that Europe cannot achieve recovery unless some measure of recovery is also reached in Germany. The Committee believes that there are better ways of preventing the re-emergence of a strong Germany than that of making any economic recovery in Germany impossible.

Report on Food Resources

I. The Immediate Situation

1. The current food problem centers on the supply of bread grain, principally wheat, and wheat is an annual crop; nothing can be done to increase the supply produced in 1947. The amount available for export between now and the next harvest can be augmented by conservation in domestic use, a subject on which the Committee expressed its conclusions in a special interim report to the President on September 24.

Europe faces a critical food shortage this year.

It is expected that economic recovery in key European countries—notably France, Italy, Greece, Austria, and Western Germany—will be severely handicapped unless food imports are increased above last year. Production goals cannot be met as long as food rations for non-farm consumers are insufficient for them to perform heavy work.

Before the war, average food consumption levels in these countries ranged from 2,500 to 2,900 calories per day. If the level of imports during the current crop year is not increased over last year, many

urban workers in these countries will receive less than 2,000 calories per day. With this inadequate diet the physical energy and economic productivity of urban workers will be low, and political unrest is likely to increase. It is difficult for Americans whose diet averages 3,250 calories per day to realize the effects of sustained malnutrition upon the economic life of such countries as Austria and Western Germany.

2. The food crisis in Europe has been intensified during the current crop year, primarily because of weather. The winter wheat crop was hard hit by an extremely severe winter. Yields of spring planted crops were greatly reduced by a drought during the summer months which affected most of the CEEC countries. As a result of these weather conditions, bread grain production in the CEEC countries (including Western Germany) is 5 or 6 million tons lower than in 1946 and more than 10 million tons below prewar. Production of other foodstuffs, including coarse grains, potatoes, and milk, has also fallen below last year's level because of the direct and indirect effects of weather conditions. To maintain the same total food consumption as in 1946-47 will require imports larger than last year by 5 or 6 million tons of grain or its equivalent in other foods.

These figures assume no reduction below last year in the amounts of food retained by farmers in the participating countries, including grain retained for livestock feed. It will be difficult to achieve further reductions in farm use of grains in the face of severe shortages of other feeds resulting from the recent drought. In addition, scarcity of nonfarm goods to buy and fears of further currency depreciation continue to discourage sales by farmers. These conditions, and the need for their correction, will persist into the 1948-51 period considered in section II below.

It is impractical to expect that more than a part of the drop in food production can be offset by reduced feeding of livestock. However, it is imperative that maximum quantities of grain be obtained for food use. Fiscal and monetary steps to increase confidence in the currencies of some of the countries will have to be taken before that is possible. Price and other policies which now stimulate grain consumption on the farms should be adjusted as rapidly as possible to curtail grain feeding of hogs and poultry in order to provide additional grain for human food use.

3. It is of foremost importance that measures for the restoration of a stable and effectively functioning monetary and price system should be taken without delay in the one area of Western Europe for which our Government has direct political and economic responsibility.

The same unfortunate results upon agricultural production which one finds in other Western European countries, such as France (due to a combination of inflation, black and gray markets, distorted price relations between commodities, extreme shortages of consumers goods and the like), are found in even worse form in the Western Zones of Germany. The system of governmentally fixed prices has become completely unreal. When farmers can receive as much for a pound of butter on the black market as they receive for a ton of wheat at Government fixed prices, the economic results are bound to be deplorable.

Collections of grain to date have been good in spite of adverse conditions but they are becoming increasingly difficult. The extreme shortage of consumers goods and the general distrust of the currency mean that farmers must usually barter food in illicit transactions to

obtain clothing, fuel or farm requisites. The production of more consumers goods and fundamental financial and monetary reforms are the only means by which the production and collection of essential foods can be brought back to an effective basis.

The recovery of food production in Western Germany has been delayed by an even greater shortage of fertilizers than has prevailed in other countries. The provision of the necessary fertilizers is of urgent importance. The extreme shortage of farm machinery which has also handicapped food production in this area should be corrected promptly by increased allocations of coal and steel for the manufacture of ample supplies of repair parts and of new machines to replace those no longer usable. It is probable that the recovery of food production could be speeded by the employment of qualified county agricultural agents familiar with European conditions to bring farmers information and help on improved methods and practices of food production.

4. Countries other than the United States may have available for export about 5 million tons of food more than last year. Unfortunately, only 2 to 3 million tons of this increase is likely to be available to the CEEC countries (including Western Germany).

Food imports into Europe are conditional upon the ability of the CEEC countries to secure the necessary means of payment. Several European countries have been forced in recent months, because of a lack of dollar exchange, to reduce their imports of Cuban sugar below the quantities which had been allocated to them. Unless France and Italy can secure more dollars in the immediate future it may be necessary for both countries to curtail imports of their most basic food-stuff—grain—because of the shortage of foreign exchange.

Even if imports of food from countries other than the United States are increased by 2 to 3 million tons and if imports from the United States can be made to equal those of last year, the supply available for consumption in the participating countries before next harvest will still be considerably below that of last year. This condition of immediate shortage throws into the forefront of United States foreign aid policy the necessity to do everything within our power to see that all possible food supplies which are physically available for export are channeled to areas where they will make the maximum contribution to world economic recovery.

It is not clear that world supplies are being fully utilized. The movement of grain from Argentina is still lagging substantially behind the potential indicated by its grain production and stocks. It is generally agreed by grain experts that Argentina would be able to remedy this situation by proper administrative action. The Committee wishes to reiterate its recommendation of September 24 which states:

The State Department and other departments concerned should use every means at the disposal of our Government to bring about changes in Argentine policy so as to secure the export of maximum quantities of grain and its distribution to the right countries on reasonable terms. Looking beyond the present season it is highly important that the Argentine Government encourage instead of discourage the planting of a large acreage for the next crop.

5. The situation outlined above, namely a drop of 5 or 6 million tons of European food production which can at best be only partially offset by imports from other areas, throws a heavy responsibility

upon the United States. We must conserve grain by all practicable means in order to make increased quantities available for export.

A nation-wide food conservation program is now under way under the leadership of the Citizens' Food Committee. This program deserves the widest and most sincere public support. At the same time we recommend that this program be immediately reviewed in the light of the progress of the grain export program and of the uncertain prospects for the 1948 winter wheat crop. The Committee believes that such a review will lead to the conclusion that certain additional authorities should be restored to the executive agencies for use if they are found necessary to supplement the voluntary program.

This Committee is not the proper agency, nor is this report the suitable instrument, to attempt a complete analysis and recommendation of the powers that may be required. Some are based on existing legislation that will soon run out. The program can scarcely go forward unless the export licensing authority which expires at the end of next February is extended. Present transportation controls also should be extended in the interest of orderly distribution.

In other fields where the legislative authority has been wholly removed, the Committee believes that the responsible administrative agencies should recommend to the President and the Congress the restoration of those limited powers which they conclude are necessary if the program is to be carried out with minimum adverse effects upon the domestic economy. Among the measures which the Committee believes may be necessary and which should in any case be made available to the executive agencies, is the authority to regulate the distribution of certain basic food commodities, a power which was utilized extensively by the Secretary of Agriculture during the war in order to prevent waste and to assure that essential needs were fulfilled. In the case of a few key commodities it may become necessary to require limited quantities to be "set aside" for export. Present authorizations are inadequate for that purpose.

6. The Committee notes with satisfaction certain actions which have been taken since the publication of its interim report. The Department of Agriculture during recent weeks has procured substantial quantities of grain.

As of October 28, the Department of Agriculture had procured some 275 million bushels of grain (about 7 million tons) for application to the 1947-48 export program, and an additional 89 million bushels (over 2 million tons) had been allocated for commercial export during the July-December period. In recent weeks the margin between wheat and corn prices has widened substantially and it is hoped that this factor, in addition to the efforts of farmers and other users to conserve wheat, will reduce wheat feeding considerably below earlier estimates.

The commodity exchanges have established a 33.3 percent margin requirement for future transactions in grain. At current prices the required margin is approximately double the previous rate. The spread of speculative activity has been restrained, while there is no evidence that legitimate hedging operations have been penalized.

The Committee feels that real progress has been made in recent weeks in grain procurement and that substantial larger quantities will be acquired for export than had been considered feasible a few weeks ago. However, the volume of grain exports during the current year is still dependent to some extent upon prospects for the 1948 winter

wheat crop. The immediate concern is to see that maximum quantities of grain are placed out of the reach of livestock and made available for export up to the limit justified by 1948 crop prospects. In the meantime, it is hoped that the measures which have been taken in connection with the voluntary food program and by the commodity exchanges will be effective in moderating the price impact of the grain export program.

7. During 1946-47 the United States exported 19.2 million tons of food. Of this, slightly less than 15 million tons (550,000,000 bushels wheat equivalent) was grain. Of the total food shipments, about 11 million went to the participating countries and Western Germany and over 8 million to other areas. Some of those other countries are still facing critical food shortages, while in others, including some countries in Eastern Europe, the food situation has improved. It has been estimated above that less than half of the drop in European food production will be offset by increased imports from areas other than the United States. If the United States is to make up part of the deficiency it will be necessary not only to equal last year's exports in total tonnage but at the same time to reduce exports to areas other than the participating countries and Western Germany. The Committee does not undertake to recommend in detail how this reduction is to be made. However, it feels that a cut of at least a million tons is feasible and in fact must be made if economic recovery is to continue in the critical areas of Western and Southern Europe.

Although this Committee has given greatest emphasis to the conservation and procurement of grain, during the current emergency full attention must be given to all foods whose cost per calorie is not unreasonably high in relation to that of grain. The Cabinet Committee on World Food Programs has estimated that United States exports of foods other than grain could be increased over last year by 2 trillion calories, equivalent to 25 million bushels or 0.6 to 0.7 million tons of grain. About half of the potential increase is in fats, oils and peanuts, with smaller quantities from nonfat dry milk solids, dried fruits and other products. This Committee agrees that such supplemental products as are in plentiful supply and are reasonable in cost should be included in an export program, with United States financial aid. In the event that higher cost commodities are acquired under price support programs, serious consideration should be given to exporting them on a subsidized basis. It should be possible to work out price arrangements which, with due allowance for other nutritive values of the commodities in question, would make such foods more nearly competitive with grain in terms of cost per calorie.

8. The prime requisite for the European recovery program is food. The urgency of increased food imports for several of the CEEC countries cannot be overemphasized. Although the United States is the major food exporting country at the present time, the CEEC countries must still secure the larger part of their total food imports from areas outside of the United States. It is to the advantage of consumers in this country to make possible maximum procurement of food by the CEEC countries outside of the United States, where it will not increase the upward pressure on domestic prices. Furthermore, it will assist European countries in their efforts to conserve foreign exchange if they are free to use their dollar resources to buy in the lowest price markets wherever they may be. Unless food flows to Europe from all

sources throughout the world during the next few months in quantities higher than last year, the result in some countries may be not merely cessation of economic recovery, but serious malnutrition and economic and political chaos.

9. Exports of fertilizer cannot alleviate the urgent food problems of the current season. However, our fertilizer exports must be pushed as rapidly as possible during the next 3 months if they are to contribute to increased food production in 1948. Commercial exports of nitrogen fertilizer have been running behind schedule during 1947-48 in spite of acute shortages in the claimant countries. Shipments of nitrogen fertilizers must be expedited during the balance of this year so that the full IEFC allocation to Europe from commercial sources is shipped within the next 3 months.

It is noted that the existing authority to allocate nitrogen for export expires at the end of February 1948. It is important that this authority be extended through the 1948-49 fertilizer year, as nitrogen fertilizers will still be extremely short in some of the participating countries and in other important food producing areas.

II. The 1948-51 Situation

1. The Committee wishes to preface this discussion of longer term prospects with a strong note of warning. In each of the last 2 years—1945-46 and 1946-47—total tonnage of food exported from the United States has exceeded all previous records. If we do everything in our power to meet the current food emergency, exports in 1947-48 may equal last year's tonnage.

In each of these years wheat has constituted well over half of the total tonnage of food exports. This has been made possible by a series of bumper wheat crops culminating in the phenomenal outturn of 1,407 million bushels this year. In each of the past 7 years weather has been unusually favorable to wheat production, especially in the Great Plains where two-thirds of our wheat is grown and where wheat yields are most variable. If weather in 1947 had been only average, wheat production would probably have been 20 percent smaller, and volume of wheat exports possible this season would have been cut in half.

In view of the continuing world shortage of food the prospect of only average weather in the United States is bad enough. However, there is a strong possibility that weather during one or more of the years immediately ahead will be unfavorable to wheat, just as this year has been unfavorable for corn. During the 5-year period 1932-36 wheat yields per planted acre averaged only 50 percent of the 1947 yields and only 55 percent of the average which prevailed during 1942-46. During the years 1934-36 inclusive the United States was on a net import basis not only for wheat but for corn as well. The same droughts which curtailed wheat yields in 1934 and 1936 resulted in corn crops of only 1.5 billion bushels.

In the light of these facts it is clear that if we experience average weather during the next 3 or 4 years our export capacity for grain will be cut down from 15 million to around 10 million tons a year (roughly, from 550 to 370 million bushels wheat equivalent). A severe drought could reduce grain exports in the ensuing 12 months almost to zero. With world grain stocks in almost all countries at exceedingly low

levels, the effect of such a development would be extremely serious. The Committee most urgently recommends, therefore, that every possible effort be made to increase food production in the importing countries of Europe and in the exporting countries and areas upon which Europe depended before the war; also, that steps be taken to expand food production for export in areas which are not large exporters at present but which have unutilized land and water resources. The abnormal dependence of food deficit countries throughout the world upon exports from the United States must be reduced as rapidly as possible for the protection of the deficit countries themselves.

2. The discussion of food prospects during 1948-51 will center around the report of the Food and Agriculture Subcommittee of the CEEC. This report will be discussed here in terms of three major topics: food production plans of the participating countries and Western Germany, food consumption targets, and import requirements and export availabilities in other areas. Consideration will be given not only to food but to feed, fertilizer and farm machinery, the main requisites for food production.

At the outset certain general comments should be made concerning the Food and Agriculture Section of the CEEC report. Of necessity the report was prepared in considerable haste. The detailed estimates were prepared by 16 different countries and may reflect different degrees of expertness as well as differences in national food policies and in interpretations of the world food situation as it affects individual countries. Furthermore, there is room for legitimate differences of opinion in estimating the speed with which agriculture both in Europe and in major export areas will recover from the effects of war. In view of these circumstances this Committee feels that the Food and Agriculture report is in most respects a highly commendable and useful job. However, it represents only a first step in the development of a complete program for agricultural recovery. As a result of discussions between Paris Conference and United States representatives, many points in the CEEC report have been further clarified and additional information on other questions is being developed by both groups. In the process of discussion and analysis some of the estimates of production and imports will be revised and the production plans of some countries will have to be altered, particularly in the early part of the period. The Committee wishes to emphasize that the validity of a European recovery program does not depend upon the exactness of the preliminary estimates contained in the CEEC report and that revisions in the estimates are to be expected as time goes on in response to unpredictable factors (including weather) which will affect food production from year to year and as a result of further analysis.

The Committee has not had time for a full and final analysis of the report. Consequently it wishes to confine its judgments to those issues which are reasonably clear on the basis of preliminary analysis and to leave open certain questions which can only be answered after more complete study.

3. The CEEC countries and Western Germany are with few exceptions highly urbanized and industrialized. The larger proportion of the population is employed in industrial, commercial, and professional occupations. Only about one-quarter of the population in the CEEC countries live on farms; in the United Kingdom the farm population is

only a little more than 5 percent of the total. Because of their heavily concentrated populations and limited land area, these countries have been heavily dependent upon imported food and feed. Less than two-thirds of the total food consumed prewar (measured in terms of calories) was produced domestically. From 1934 to 1938 imports of grain from all sources (including calories) averaged about 25 million tons a year. This includes net grain movements from Eastern to Western Germany.

Before the war considerable emphasis was placed on livestock production in Europe. Almost half of the imported grain was used for animal food. Five million tons of oil cake (including the oil cake equivalent of imported oil seeds) were also imported for feed each year. Supplies of concentrate feeds in a number of the participating countries were derived in large part from those imports of coarse grains and oil cake.

In addition to grains, the CEEC countries relied on non-European sources for large quantities of other foods. In 1934 to 1938 they imported an average of 3.2 million tons of fats and oils, 3.7 million tons of sugar, 1.7 million tons of meat, and considerable quantities of other foods.

European food production was greatly reduced as a result of the war. Because of adverse weather conditions in 1945 and wartime losses in soil fertility, farm machinery, and manpower, food production in some of the CEEC countries was one-third lower in 1945-1946 than in the immediate prewar years. This drop in European production coincided with a low level of imports of most foods other than bread grains. In 1946-47 there was a considerable increase in both production and imports of most foods, but the weather in 1947 caused serious setbacks.

Restoration of the prewar agricultural pattern in Europe by 1950-51 is the general objective presented in the agricultural sections of the CEEC report. Although individual countries plan to make considerable changes in their agricultural production patterns, the European countries as a whole are moving to re-create the prewar situation by the end of the 4-year period of the program.

4. The following table summarizes the food production goals of the participating countries and Western Germany:

**Production of Basic Foodstuffs in the Participating Countries and
Western Germany**

[In millions of metric tons]

Item	1934-38 average	1946-47	1947-48	1948-49	1949-50	1950-51
Wheat and rye.....	34.0	28.3	21.4	30.2	32.7	34.0
All cereals.....	64.5	55.6	48.9	60.3	63.4	65.8
Oils and fats ¹	2.8	2.0	2.2	2.5	2.7	2.9
Sugar.....	3.4	3.3	3.4	3.6	3.7	3.9
Meat.....	9.0	5.9	6.0	6.5	7.2	8.1
Milk.....	72.5	55.7	57.0	61.9	65.9	73.4

¹ Including butter. Source: Committee of European Cooperation, vol. 2, p. 26, table 2.

In general the production pattern indicated by the table appears reasonable. However, crop yields for 1950-51 may actually be larger than stated above if planned increases in the use of fertilizer stated elsewhere in the Report are achieved.

If these food production goals are realized, food available per capita from indigenous sources will be lower in 1950-51 than in 1934-38. Food production in 1950-51 is expected to be approximately equal to the prewar levels but the population increase during the same period is expected to be about 11 percent. This implies a reduction in per capita food production of about 10 percent, probably 20 percent in Western Germany and about 5 percent in the other countries taken as a group. The scaled-down estimates of food and feed imports (see below) are approximately equal to prewar. This means that if prewar calorie levels are to be maintained a larger proportion of total grain supplies must be used for human food and relatively high flour extraction rates must be continued. Both types of measures imply that, if the supply estimates are realized, total quantities of grains and millfeeds available to livestock will be considerably below prewar.

The following table shows the projected livestock program of the CEEC countries:

Livestock Numbers in the Participating Countries and Western Germany

[In millions]

Item	1934-38 average	1946-47	1947-48	1948-49	1949-50	1950-51
Cattle ¹	75.0	74.9	74.8	76.6	78.4	80.4
Hogs.....	41.1	26.1	25.7	28.2	32.3	37.1
Sheep.....	106.3	100.6	97.5	103.5	106.9	109.5
Horses.....	13.4	12.4	12.4	12.2	12.1	11.9
Poultry.....	538.1	432.9	459.4	508.1	571.2	611.5

¹ Including milk cows.

Source: CEEC, vol. 2, pp. 64-68.

The total amount of feed grains and oilcake required to support this livestock program by 1950-51 would be at least as great as the amount required between 1934 and 1938. The planned increase in the cattle and poultry population in countries other than Western Germany is especially significant. An additional 5 million tons of grain and oilcake would be required over and above prewar levels if feed consumption per animal unit were restored to the 1934-38 rate. Partially compensating for this increase, numbers of cattle, hogs, and poultry in Western Germany are expected to be much below prewar, even at the end of the Marshall Plan period. In 1950 the cattle population in Western Germany is projected at about 10 percent below the prewar level. Hogs and poultry would be about 30 percent and 40 percent respectively below the prewar period. These reductions in numbers of livestock might reduce grain consumption by 3 million tons as compared with prewar levels.

The 1947 drought has already caused the rate of increase in livestock numbers to fall below programmed levels. An addendum to the original CEEC Report has been issued which recognizes the probable adverse effects of current weather conditions on the livestock recovery program. A reduction in the livestock population releases grain for direct use by human beings in the immediate future, but makes it more difficult for Europe to attain its livestock goals within the stated time.

Whether or not a rapid increase in livestock is desirable depends upon the availability of grain. It is clear that the world carry-over of grain next summer will be extremely low; also it is unlikely that grain

production in 1948 will permit any substantial accumulation of stocks. Hence, the Committee believes that the use of grain for human consumption should be given much greater emphasis during the next 2 years than was implied in the original CEEC Report. In order to insure adequate supplies of grain for human beings and rebuild reserves to a safer level, the Committee feels that the European countries should continue to defer expansion of livestock. As grain production in Europe is reestablished at a higher level, and as import availabilities increase, first priority (after food use) should be given to an expansion in dairy cattle, with other livestock receiving whatever supplies may be surplus after the higher priority needs have been met.

In the judgment of the Committee, the livestock production estimates for 1950-51 will be difficult to achieve. Although they are not entirely out of the question, exceptionally favorable circumstances will be needed for their achievement by that time. The goals might be reached at a somewhat later date, however, even under ordinary conditions. The principle to be stressed for the next year or two is that livestock, and not people, must be the residual claimant upon grain supplies, and that livestock feeding should be expanded only after supplies for human food have been assured.

5. Net import requirements as stated in the CEEC summary report on Food and Agriculture are not simply totals of the figures submitted by individual countries. In the case of several basic foodstuffs these totals obviously exceeded supplies which were likely to become available. Consequently, the group totals were scaled down—grain imports in particular—from about 30 million down to 25 million tons. Estimates of oilcake requirements were reduced 1.5 million tons in each year, and smaller reductions were made for other commodities during all or part of the 1948-51 period. It should be emphasized that, generally speaking, the individual country estimates were not unduly high according to prewar consumption standards, bearing in mind the fact that total population in 1950-51 may be more than 10 percent above prewar.

The CEEC report does not state explicitly the food consumption targets of the participating countries. Consequently, it is somewhat arbitrary to read into the production and import figures a dietary pattern which has not been recognized affirmatively by the CEEC countries themselves. To convert the basic figures into estimates of per capita calorie levels involves a number of assumptions as to the division of grain supplies between food and feed, the level of flour extraction rates and other factors. The figures originally submitted by the individual countries would in most cases imply calorie levels equal to or in excess of prewar. However, the scaled-down estimates of total availabilities (notably a reduction of 5 million tons in grain imports) imply either a lower average calorie intake than before the war or an increase in calories from cereals to offset decreases in other foods. It would be possible to equal prewar total calorie levels in practically all countries if grain feeding of livestock were restricted and if other measures such as high flour extraction rates and dilution of wheat flour with coarse grains were continued. These measures imply, however, that the composition of the diet would be inferior to prewar, with the sharpest reductions probable in the case of meat and lesser reductions in some other livestock products.

The Food and Agriculture Committee of the CEEC did not attempt to revise the import requirement figures of individual countries, since this would imply an allocation function which it felt was outside of its terms of reference. Actually, to the extent that world export availabilities fall short of desired imports, an allocation will be necessary which will be a very important aspect of foreign aid. For the current year this function is being performed by the International Emergency Food Council. Principles of allocation developed by this body may also be used in succeeding years in connection with the aid program.

6. This Committee doubts whether even the scaled-down estimate of import requirements for grain (25 million tons a year during 1948-51) will actually be met. Moderate shortfalls may also be experienced in other foodstuffs. On the other hand, the stated import requirements for some foods could probably be exceeded. Fish is already in long supply in some of the participating countries while other countries, because of financial and other difficulties, are consuming less than prewar. Dried fruits, dry peas, dry beans, nonfat dry milk solids and certain other foods could be made available in larger amounts from this country. Sugar supplies by 1950-51 may also permit larger imports than the stated requirements. In the event of shortfalls in some foods, imports of foods in longer supply might very well be increased.

United States commodity specialists are currently engaged in an appraisal of world export availabilities in relation to the requirements of the participating countries and Western Germany. The Committee does not wish to prejudge the results of this analysis. However, if the results indicate that shortfalls in certain basic foods are highly probable, much more definite plans must be made for the substitution of foods which are or can be made available in excess of currently stated requirements.

7. It is of interest to compare the stated grain requirements of the CEEC countries from the United States and other areas with preliminary estimates of supplies which are likely to be available. The CEEC report contains an estimate of grain imports from the United States of 9 to 10 million tons yearly during the period of the Marshall Plan. During 1946-47, United States exports of grain to all destinations approached 15 million tons. However, of this amount the participating countries (including Western Germany) received slightly less than 9 million tons. Weather during the last 2 years has been unusually favorable for wheat production. Given only average weather during the Marshall Plan period, total United States exports of grain would probably average nearer 10 million than 15 million tons. However, other parts of the world, including Latin America and the Far East, will probably continue to require substantially larger quantities of grain than before the war. It seems highly probable, therefore, that with average weather the stated import requirements of the CEEC countries from the United States cannot be met in full.

It is estimated in the CEEC report that supplies of grain amounting to 8 to 10 million tons yearly will be available from other countries in the Western Hemisphere, particularly Canada and Argentina. If total grain exports from these countries equal the prewar average, it is quite possible that the stated CEEC requirements can

be obtained. A large additional quantity of grain is expected to come from a restoration of the prewar movement of grain from Eastern to Western Europe.

If internal movements of grain from the agricultural provinces of Eastern Germany to the heavily industrialized and urbanized sections of Western Germany are included, grain movements from Eastern to Western Europe before the war averaged approximately 5 million tons yearly. It is evident, therefore, that the assumption of a rapid restoration of this movement to prewar levels is a very important one to the food and agricultural program outlined by the CEEC countries. The devastations of war in Eastern Europe, followed by adverse weather in some countries, have kept grain production substantially below prewar levels during the past 2 years. Furthermore, a major reorganization of agriculture is going on in some countries, including subdivision of the large estates which formerly provided a major share of commercial grain available for export. This reorganization is likely to result in increased emphasis upon livestock production and feeding with a consequent reduction in grain exports.

Operating on the other side is the fact that Western Europe, as economic recovery proceeds, will have increasing quantities of industrial goods available for export, many of which will be important to the economies of Eastern Europe. Trade is currently proceeding between Eastern and Western Europe and the CEEC apparently feels that this trade will return toward prewar levels as economic recovery proceeds in both areas. In effect, the assumption is that the availability of industrial goods in Western Europe will furnish a strong inducement for Eastern Europe to exchange, in prewar volume, the food and feedstuffs which are most needed by Western Europe.

This Committee hopes that this assumption will prove correct. If it is not realized at least in substantial measure, it will throw a greatly increased burden upon food supplies from other areas. In the case of grains, this Committee believes it is very unlikely that the traditional exporting areas would make up a deficit of 4 to 5 million tons in exports from Eastern Europe. In such a case, the food needs of Western Europe would require a reduction of grain feeding of livestock or strenuous efforts to develop supplies of grain in areas which are not now major exporters but which have some unused land and water resources.

8. In the case of fats and oils it is not clear that the CEEC report assumes the maximum possible recovery in exports from established producing areas. In some of these areas political settlements are needed, as well as equipment and fertilizer for production and consumption goods for trade. In others, including India, increased population has caused a substantial increase in domestic consumption of fats and oils and a consequent reduction of exports. India will probably not return to an export basis. It will be necessary in other areas to increase production of fats and oils well above the prewar level in order to make prewar quantities available for export. However, a vigorous economic recovery program such as was conducted with outstanding success in the Philippines should restore exports from some major areas to or above the prewar level. It should be noted that exports of copra from the Philippines in recent months have been running about 40 percent above prewar.

One of the most important possibilities of increasing food supplies available to Europe in the near future lies in the rapid restoration of production in some of the tropical areas which were important exporters of fats and oils before the war. Such restoration will be of benefit not only to the countries of Western Europe, but to the supplying areas who will thereby be able to increase their imports of much needed production and consumption goods. Since a third of Europe's prewar food supply came from overseas, an increase of production in the supplying countries is almost as important as increased production in Europe itself. In order to stimulate recovery in certain of the supplying areas, it may be found necessary for the United States to assist either with dollars or with goods in the initial stages. The Committee is not sure that such a contingency will actually arise. If it does, however, it should be remembered that dollars spent to restore and stabilize production in these areas may considerably reduce the present abnormal burden of direct food exports from the United States to the CEEC countries.

In view of the current world shortage of fats and oils it appears that the French and British plans for expanding oilseed production in Africa represent a constructive development. Certain prewar sources of liquid edible oils may not return to an export basis, due to increases in domestic consumption or to other factors. However, these new developments should not be regarded as substitutes for rehabilitation of those traditional sources which can be restored to an export basis. In fact, the new developments should be subject to continuing review in the light of progress made in the older exporting areas.

9. Similar considerations apply to sugar and rice. Three great sugar exporting areas in the Far East (the Philippines, Formosa, and Java) virtually went out of production during the war. Physical destruction of facilities was only partially responsible for this. The important fact was that Japanese occupation completely cut off these areas from their prewar export markets. Sugar cane plantations were abandoned and some of the land was diverted to production of direct food crops. The completeness of this shift out of sugar production is illustrated by the fact that production in these areas before the war averaged 3.4 million tons a year. During 1946-47 production in these areas totaled only 0.1 million tons. Recovery is under way in the Philippines and it is possible that production will approach prewar levels by 1951. However, recovery in Java and Formosa is hindered by unsettled political conditions and by lack of production facilities and trade goods. In the case of Java, imports of rice are also needed.

Limited foreign exchange has recently caused some European countries to cut sugar purchases below the amount actually allocated to them by the International Emergency Food Council. Presumably their imports would again increase if the dollar bottleneck were broken. The world sugar situation is somewhat different from that of fats and oils in that Cuban production has increased by almost as much as the decrease in Java, Formosa, and the Philippines.

The Committee is not able to make definite recommendations on sugar policy on the basis of present information. In view of the fact that preliminary analysis of world grain availabilities raises considerable doubt that the stated import requirements of the CEEC countries will be realized, there is much to be said for an increase in sugar consumption in these countries at least to prewar levels. It is not argued

that sugar is nutritionally a full substitute for grain, but it does offer one of the most practicable means of increasing food energy levels during the next two or three years.

10. One of the chief factors responsible for the current world food shortage is a substantial drop in rice production in the Far East, coupled with large increases in population in certain areas which were rice importers even before the war. Before the war, a very substantial volume of rice was exported to Japan from Korea and Formosa and still larger quantities were shipped from Burma, French Indo-China, and Siam to the coastal cities of India, China, and other deficit areas in the Far East. Smaller quantities of rice were exported to Europe for food and some low grade rice was used for feed, notably in France. Rice production in Burma, French Indo-China, and Siam dropped materially during the war for the same reasons noted above in the case of sugar. Producers raised only sufficient rice for their own needs. In consequence, rice exports from the three countries fell from a yearly average of 5.7 million tons before the war to less than 1.5 million tons in 1947. As a result, the deficit areas of India and China have made substantial demands upon supplies of cereal grains from the United States and other sources. The political and economic disruptions of the rice economies of Formosa and Korea have resulted not merely in cessation of rice exports from these countries to Japan, but have placed Korea on a net import basis. During 1946-47 the United States exported over 3 million tons of wheat and other grains to the Far East, whereas before the war such exports were almost negligible. If rice production could be restored to and even beyond prewar levels in the major rice exporting countries of the Far East, the requirements of Far Eastern countries for cereal grains from the Western Hemisphere would be almost proportionately reduced, leaving substantial increased supplies of these grains available for Europe.

Rice acreage and production in Burma and Siam are increasing, and early season prospects are for 1947-48 production a million tons above last year. In French Indo-China, however, production is expected to decline still further from the low level of 1946-47. This is primarily due to the political stalemate which now exists in that country. There is urgent need for settlement of the political situation in French Indo-China in order that rice production and exports can be restored. Both production goods (such as fertilizer) and consumer goods may be necessary to stimulate the recovery program not only in French Indo-China, but in the other countries as well. Once exports are resumed, these countries will be in a position to pay for their imports on a current basis. Recovery in the rice producing areas is perhaps even more important than the need for recovery in the major surplus producing areas for fats and oils. These recovery programs, contributing as they do to the welfare of both Western Europe and the Far East, should be stimulated in every manner possible. Since part of the responsibility for the present political situation in French Indo-China and the Netherlands Indies rests with two of the CEEC countries, measures to bring about recovery in these areas are related in this additional respect to the European recovery program.

11. At the beginning of this discussion of prospects during 1948-51 the Committee stressed the importance of reducing as rapidly as possible the abnormal dependence of deficit areas throughout the

world upon United States food supplies. The Krug report on *National Resources and Foreign Aid* contains an appraisal of our capacity to export food in the years immediately ahead. The Committee is in substantial agreement with this appraisal.

The Krug report states that with weather equal to the 1937-46 average, "the United States can export from 300 to 400 million bushels of grain yearly, including more than 250 million bushels of wheat." This range amounts to from 8 to 11 million tons, compared with roughly 15 million tons exported in 1946-47. This means that, given the average weather that was experienced in 1937-46, total grain exports from the United States should equal or only slightly exceed the amounts assumed by the CEEC for the participating countries and Western Germany alone. If the United States continues substantial exports to prewar markets in Latin America and also to the rice deficit areas in the Far East, the assumed quantity for Europe cannot be met in full. If rapid recovery is effected in the rice exporting countries and if United States exports to other areas are held to a minimum, the imports assumed by the CEEC might be barely covered.

With weather equal to the favorable 1942-46 average, United States exports of wheat might exceed 350 million bushels, and total grain exports might reach 11 to 13 million long tons. In this case the CEEC estimate could be covered without too much difficulty if substantial recovery occurs in the rice producing areas. It must be emphasized again that this favorable prospect for United States production cannot be depended on as an average over the next 3 years. It is the sort of prospect which might be expected on the average about 1 year in 3, and which might be offset by 1 year of below-average yields.

The Committee wishes to reiterate that the possibility of one or more years of unfavorable weather, even of severe drought, during the 1948-51 period must not be overlooked. With world grain stocks now at extremely low levels, the impact of such a development would fall almost entirely on current consumption. Even with average weather in the participating countries and a substantial increase in their grain production over 1947, the net result would be a food situation fully as critical as in the current year.

The CEEC report does not indicate whether grain imports from the United States in 1951-52 and after are expected to continue at the 8 to 10 million ton level. Exports of this amount with average weather would require several million more acres of wheat than is desirable from a long-run conservation viewpoint. There is danger of serious wind erosion in the Great Plains if dry weather finds us heavily overextended on land which should be in permanent sod. This is a risk which already has been taken and which will continue throughout the current food emergency but which should not be run for one season longer than absolutely necessary. On the other hand, it would be in the interest of United States farmers if they could have a continuing export market for the grain which can safely be grown under sound conservation practices. The grain exports to all countries which might result under a sound conservation program, however, would probably fall considerably short of the 9 to 10 million ton figure for CEEC countries only which is assumed for the next three years. There is a strong implication that grain production in the participating countries after 1951 must be increased substantially over the prewar

upon the United States. We must conserve grain by all practicable means in order to make increased quantities available for export.

A nation-wide food conservation program is now under way under the leadership of the Citizens' Food Committee. This program deserves the widest and most sincere public support. At the same time we recommend that this program be immediately reviewed in the light of the progress of the grain export program and of the uncertain prospects for the 1948 winter wheat crop. The Committee believes that such a review will lead to the conclusion that certain additional authorities should be restored to the executive agencies for use if they are found necessary to supplement the voluntary program.

This Committee is not the proper agency, nor is this report the suitable instrument, to attempt a complete analysis and recommendation of the powers that may be required. Some are based on existing legislation that will soon run out. The program can scarcely go forward unless the export licensing authority which expires at the end of next February is extended. Present transportation controls also should be extended in the interest of orderly distribution.

In other fields where the legislative authority has been wholly removed, the Committee believes that the responsible administrative agencies should recommend to the President and the Congress the restoration of those limited powers which they conclude are necessary if the program is to be carried out with minimum adverse effects upon the domestic economy. Among the measures which the Committee believes may be necessary and which should in any case be made available to the executive agencies, is the authority to regulate the distribution of certain basic food commodities, a power which was utilized extensively by the Secretary of Agriculture during the war in order to prevent waste and to assure that essential needs were fulfilled. In the case of a few key commodities it may become necessary to require limited quantities to be "set aside" for export. Present authorizations are inadequate for that purpose.

6. The Committee notes with satisfaction certain actions which have been taken since the publication of its interim report. The Department of Agriculture during recent weeks has procured substantial quantities of grain.

As of October 28, the Department of Agriculture had procured some 275 million bushels of grain (about 7 million tons) for application to the 1947-48 export program, and an additional 89 million bushels (over 2 million tons) had been allocated for commercial export during the July-December period. In recent weeks the margin between wheat and corn prices has widened substantially and it is hoped that this factor, in addition to the efforts of farmers and other users to conserve wheat, will reduce wheat feeding considerably below earlier estimates.

The commodity exchanges have established a 33.3 percent margin requirement for future transactions in grain. At current prices the required margin is approximately double the previous rate. The spread of speculative activity has been restrained, while there is no evidence that legitimate hedging operations have been penalized.

The Committee feels that real progress has been made in recent weeks in grain procurement and that substantial larger quantities will be acquired for export than had been considered feasible a few weeks ago. However, the volume of grain exports during the current year is still dependent to some extent upon prospects for the 1948 winter

According to the plans, nitrogen used in 1950-51 would be roughly 0.8 million tons above the 1934-38 average while potash and phosphate use would each be up about a million tons.¹ Properly applied, these increases in fertilizer use should increase crop and forage production above prewar levels. For example, 0.5 million tons of nitrogen applied to grain crops should increase grain production by perhaps 6 million tons, other factors (including weather) being equal. In some of the Southern European countries where fertilizer use is small and grain yields low the proportionate effect might be even greater. Phosphates and potash produce roughly comparable results on root crops.

In view of these considerations, the Committee believes that the CEEC estimates of crop production in 1950-51 are somewhat conservative. It is true that many other factors will affect farm production, including the morale of farm people. Accumulated deficiencies both of animal manure and commercial fertilizer (particularly phosphates and potash) are still having adverse effects on crop production at present. By 1950-51 these deficiencies should have been largely made up if the fertilizer and the livestock production programs are realized, although some of the CEEC countries report that this improvement will not affect crop yields substantially until after the Marshall Plan period. The draft power and farm machinery situations should be better than prewar if the farm mechanization program is substantially realized. A few countries expect continued difficulties due to shortages of labor and of high quality seed.

It is quite possible, of course, that various factors, including delays or shortfalls in other parts of the general recovery program, may prevent the full effect of increased fertilizer use from appearing by 1950-51. However, the Committee feels that the fertilizer program is exceedingly important, and that if pushed vigorously it may very well offset a significant part of the prospective shortfalls in imports, particularly of livestock feeds.

The planned increase in phosphate consumption presents no apparent problem except in Western Germany. Even there it is partly a question of providing adequate funds to pay for needed imports. There are ample supplies of phosphate rock in North Africa.

The potash import requirements from nonparticipating countries will continue to rise during the 1948-51 period, amounting to 658 thousand tons in the last year. The principal source of these imports must be Eastern Germany. These quantities are believed to be within the capacity of that area to supply.

In the case of nitrogen, however, there is a worldwide shortage at present which is likely to continue during at least the early part of the Marshall Plan period. Nitrogen production in some European countries is above prewar levels, while in others it is substantially below prewar. A large amount of prewar nitrogen capacity in Europe is currently out of production due to war damage and lack of steel for repairs. In Western Germany particularly, it is the policy of the occupation authorities not to restore certain facilities which are particularly suitable for the production of munitions. However, there is substantial capacity even in Western Germany which could be brought back into production if steel and equipment were made avail-

¹ Weights are in terms of N, P₂O₅ and K₂O.

able to carry out the necessary repairs. There is also substantial damaged capacity in other countries where security considerations are not involved. The Committee feels strongly that top priority should be given to the provision of steel and equipment to repair war-damaged nitrogen fertilizer plants as rapidly as possible, and to the allocation of adequate supplies of coal to operate them to capacity.

In the spring of 1947 it was reported that a considerable volume of nitrogen capacity was unutilized solely for lack of coal. A recent survey made by CEEC representatives indicates that this situation has been fully corrected in most of the participating countries. Apparently, further increases in production must come for the most part from repairs or expansion of plant and facilities.

As in the United States, some of the existing synthetic ammonia facilities are being used to produce nitrogen for industrial uses or other products such as methanol which can be made with nitrogen facilities. Recent information from some of the CEEC countries indicates that ammonia capacity is in excess of the capacity for producing finished fertilizers. The Committee feels that this situation may well call for the development of integrated finishing facilities at or near some of the excess ammonia capacity, as is recommended below in the case of United States ordnance plants.

It has been noted above that the CEEC countries plan a substantial increase in nitrogen production by 1950-51 and that in that year they hope to be on a net export basis. However, during the first 3 years of the program, the CEEC countries report substantial net import requirements for nitrogen. The recently revised estimate of net import requirements of nitrogen during 1947-48 is 440,000 tons and in the following 2 years, the estimates are 297,000 and 149,000 tons, respectively. A large part of these net import requirements would have to come from the United States if they were to be met at all. The stated requirement figure for 1947-48 is far in excess of present allocations and it is unlikely that shipments could be made much in excess of current allocations in time for application to 1948 crops. The Committee believes that this possibility should be considered further by the United States administrative agencies involved and by the fertilizer industry. However, for 1948-49 the Committee believes it will be possible to increase nitrogen exports from the United States considerably above the current level. It may be noted that the current rate of use of nitrogen fertilizer in the United States is fully double prewar, although still short of demand at existing prices. The Committee believes that little hardship would be involved if domestic utilization of nitrogen fertilizers during 1948-49 were not increased above this year's level. In this event, it would be possible to increase nitrogen exports rather substantially if the synthetic nitrogen plants owned by the United States Government were utilized to full capacity.

Ordnance plants at Etter, Texas; Henderson, Kentucky; and Morgantown, West Virginia, are being used by the Army to produce synthetic ammonia, which is processed at other locations into grained ammonium nitrate for shipment to occupied zones of Germany, Japan and Korea. This decentralized operation requires the movement of anhydrous ammonia by high-pressure tank cars to solution plants, and the movement of the solutions to graining plants. Costs are very high and due to the inadequate supply of high pressure tank cars the plants are not being operated at full capacity. Increased production

could be achieved and savings in production costs could be accomplished by installing at the ammonia plants equipment to permit integrated production of finished fertilizer.

There is an uncompleted ammonia unit at Etter, Texas (Cactus) which could double the output at that plant if put into operation. There are also available for disposal at the Louisiana, Missouri, Ordnance Works two ammonia units having a combined capacity of 100 tons per day.

In view of these conditions it is recommended that the following actions be taken at the earliest possible time:

- (1) Establishment of full production from the presently unused synthetic ammonia capacity owned by the Government.

- (2) Construction of facilities required at these plants to permit the production of finished fertilizer-grade nitrogenous materials in integrated operations. Consideration should be given to the possible production of urea compounds in addition to ammonium nitrate and ammonium sulfate.

- (3) Sale or lease to private interests of the Government-owned facilities with provisions to assure continued production and availability from them of fertilizer materials for such times as the need continues. If this cannot be effected, then continue Government operation as an emergency measure.

Sustained production from these facilities will be of benefit to United States farmers long after the Marshall Plan period.

Nitrogen exports from the United States can make a highly significant contribution to food production in the participating countries and Western Germany during the next 2 or 3 years, as well as in other parts of the world. However, the probable dollar value of our nitrogen exports to Europe is only about 1 percent of the estimated value of United States exports of food.

15. A fuller discussion of the CEEC program for tractors and farm machinery appears in a following section of this report. It will suffice at this point to say that the participating countries have outlined a highly ambitious program of farm mechanism. It is questionable whether it is either feasible or advantageous to accomplish such a degree of mechanization within a 4-year period. Current exports of United States farm machinery to these countries are only about half of the quantity which United States dealers estimate could be sold and paid for in terms of local currencies, but they are a considerably smaller fraction of the import requirements stated in the CEEC report. The Committee feels that the total stated requirements could be cut substantially without demonstrable ill effects upon food production. First emphasis should be placed upon United States aid to increase production of spare parts and machines by European factories. It is the judgment of the Committee that more accurate estimates should be obtained of the volume of farm machinery that can be used to advantage for increased food production in Europe during the next few years. These could be secured by a small American mission working closely with farm management specialists in the respective countries, and would serve as a more dependable guide than any now available for the determination of the volume and kind of farm implements which can be exported from the United States with optimum results.

16. The preceding discussion has been confined almost entirely to food and the means of food production. It should be noted that the

United States has exported large quantities of nonfood crops in the past—notably cotton and tobacco—and expects to continue doing so in the future. Import requirements of the participating countries for United States tobacco are apparently about the same as prewar. Marketing quotas are now in effect in the United States for some types of tobacco, and production could be significantly increased if outlets were available. Recent action by the United Kingdom to conserve dollars by restricting tobacco imports from the United States underlines the fact that even the prewar level of tobacco exports cannot be assured unless the current unbalanced condition of world trade is corrected.

17. The Committee wishes to note at least one striking opportunity for increased cooperation among the participating countries. The CEEC report notes that a serious disposal problem exists for some of the participating countries in the case of fish. The report states in part that:

Some of the principal countries are already finding it impossible to dispose of all their exportable surpluses, a good deal of the difficulty being due to the lack of a market in Western Germany where fish consumption is very much below the prewar average . . . The Committee recognizes the financial difficulties involved, which also operate in a number of other potential markets.¹

In view of the serious shortages of animal proteins available to non-farm people in the participating countries, increased consumption of fish should be extremely helpful. So far as the financial and technical limitations on consumption apply to Western Germany, the United States and other occupying powers have the major responsibility for seeing that potential supplies of fish are actually made available for consumption. In other cases, however, the responsibility lies with the participating countries themselves. In view of the critical food situation this year, the participating countries should certainly be expected to meet this problem of economic cooperation. Similar challenges to the principle of cooperation apply to movements of fruits and vegetables and doubtless of other commodities between the various participating countries.

The Committee feels that the principle of cooperation between the participating countries should be much more fully developed and implemented in the detail programs which go into making of an overall recovery plan. This is part and parcel of the need for a broader economic area and increased international trade inside of Europe. It should be noted, however, that practically all of the CEEC countries are net importers of such basic commodities as grains, feeding stuffs and fats and oils, and that while the possibilities of increased exchange of food between them are real, they should not be exaggerated.

18. It may be helpful to recapitulate what the CEEC report assumes in the way of food, feed, fertilizer, and farm machinery imports from the United States. Very roughly, the CEEC report assumes imports from the United States of 9 to 10 million tons of grain yearly, and a million tons of other foods. Additional quantities of oilcake, tobacco, nitrogen fertilizer, tractors, and farm machinery are anticipated. Actual exports of food from the United States to the participating countries and Western Germany may approach the assumed levels in 1947-48 but are likely to average significantly lower for the 4-year

¹ CEEC, vol. 2, p. 30.

period, and in any one year may fall far below assumed levels in the event of unfavorable weather here. Tobacco requirements can be met in full. United States exports of fertilizer and farm machinery will fall considerably below stated requirements, particularly during the first year or two of the period.

Quantities available from other Western Hemisphere countries and from the rest of the world under favorable circumstances may approach the stated requirements. However, shortfalls from these areas are more probable than excesses, particularly during the first 2 years.

19. In conclusion, the Committee wishes to return to the basic question underlying the CEEC food and agriculture program. Is it feasible? Can it succeed? Will the effects of the program upon United States agriculture stay within "safe and wise limits?"

The wisdom of a vigorous recovery program can only be determined by comparison with possible alternatives. The Committee believes that the United States is physically and financially able to assist Europe through its current food crisis; to contribute as no other nation can to the rehabilitation of the areas upon which Europe depended for food imports before the war; and to assist in the development of new sources of food supplies. These lines of action, which are within our technical and financial power, may succeed in reintegrating the economy of western Europe with those of the food exporting countries on terms which will be mutually advantageous. Recovery of the agricultural economies of both groups of countries will certainly make for political stability and the preservation of democratic institutions where they now exist. With agriculture reestablished in these areas, the present dangerous and abnormal dependence of food deficit countries throughout the world upon United States food supplies would be largely eliminated. The existing extreme dependence upon the vagaries of weather in a single area is a source of insecurity not only to the food deficit countries but also, through its effects on political stability throughout the world, to ourselves.

The Committee is impressed with the importance of reestablishing extensive trade between eastern and western Europe. Before the war the participating countries and western Germany imported about 5 million tons of grain yearly from eastern Europe. Economic recovery in western Europe will increase the bargaining power of the participating countries by reestablishing a basis for trade. A sharp division between the economies of eastern and western Europe would certainly increase the difficulty of restoring adequate levels of food consumption in the CEEC countries.

The Committee is not able to certify that the specific targets set up in the CEEC report will be achieved on schedule. Some will probably be exceeded and others are probably too ambitious for the allotted time. Over all, the food and agriculture program is reasonable and should result in very substantial recovery by 1950-51. It seems to the Committee that the practical problem of the participating countries is to approach the desired objective as nearly and as rapidly as possible. The practical question for the United States to decide is how far it will go in goods and money to assure the substantial success of the recovery program. Failure to act promptly and vigorously to restore food production in Europe and in its former supplying areas will at best result in continued economic stagnation and political unrest in both groups of countries.

Report on Agricultural Machinery

Domestic production is already far above prewar and a further increase of 10 to 15 percent is expected over the next year. This increase depends primarily on expanded plant capacity. An uninterrupted flow of scarce items—sheet steel, malleable and grey iron castings, disc blades, chain, ball and roller bearings—would result in a gain of a few percent in over-all output from existing facilities. With the possible exception of sheet steel, however, there is no single serious shortage limiting production.

Domestic demand is well in excess of the industry's productive capacity, and is likely to continue so in the near future. Basic causes are the large demand for farm products, the need for labor-saving devices to offset the shortage and high cost of farm labor, and the high purchasing power of farmers in terms of both current income and cash assets.

To the extent that the producers are not able to meet this demand, the effect is to delay the further mechanization of farms and to spread the backlog of demand over a longer period of time. The pressure of excess demand also has the effect of creating a "gray" market at substantially above manufacturers' list prices.

Exports are taking roughly one-sixth of domestic production, (Only one-eighth of manufacturers' sales is earmarked for export but some machines not so earmarked do find their way abroad.) Tractors, including those for nonfarm use, account for more than two-thirds of total exports in this category.

Actual export orders are roughly double export allotments. Even more could be sold in foreign countries if they did not have to be paid for in dollars.

One-fifth of the exports in the first half of 1947 went to the sixteen Paris conference countries plus Western Germany. In other words these countries took about 3 percent of domestic production.

The projected expansion of output in 1948 would permit a doubling of the recent rate of exports to Europe and still allow a small increase in the supply of equipment for domestic and other foreign markets. There is the further possibility that there may be some decline in the exports to non-European countries as the dollar resources of these countries run out. This would permit a further increase in shipments to Europe without reducing supplies for the United States market. It seems probable, however, that for some time the combined demands upon domestic manufacturers will be greater than their ability to produce.

The CEEC has outlined an ambitious program of farm mechanization in the participating countries. The magnitude of this program can be illustrated by the data on tractors.

Prior to the war, the 16 participating countries, plus western Germany, had very roughly 200,000 tractors on farms. By the 1946-47 crop year this number had been increased to around 400,000

Farm tractors in the United Kingdom alone are reported to have increased from 60,000 to 190,000. Gains in other countries have been more modest but almost all are above the prewar level.

The total increase was sufficient to offset part, but not all, of the decline in horses. While our information does not warrant a precise statement on this point, apparently the total power on farms in these countries, including tractors, horses and other draft animals, is a few percent below prewar. This situation, however, varies substantially between countries. In several instances, notably the United Kingdom, the increase in tractors probably has more than offset the decline in draft animals.

The reported tractor requirement, including only those for farm use, is over 200,000 in each of the next 4 years. Allowing for needed replacements, it still would mean rapid further mechanization. It would mean increasing tractors from about 5 percent of the total power on farms in prewar years, and roughly 10 percent at the present time, to well over one-third of the total by the end of the four-year period.

France is a spectacular example of this planned mechanization. Its reported requirements in each of the next four years are equal to the total number of tractors now on French farms. Some of the smaller nations are planning even greater percentage increases. Even the United Kingdom, which has already more than tripled its prewar tractor population, states its requirements over the next 4 years as 326,000 units.

While the programmed requirement of other agricultural machinery cannot be related to similar data on equipment in use it also appears ambitious. The average annual requirement over the next 4 years for the 16 participating countries is given as four times the prewar average. France which has less than one-fourth of the combined acreage in the principal crops account for one-half of the total stated requirements for the 4-year period.

Farm mechanization can be beneficial in several ways. It permits more thorough preparation of the soil, more timely planting, cultivation and harvesting. It compensates for labor shortages or releases labor for nonfarm use. It provides easier working conditions and greater leisure for the farmer. It would be difficult, however, to establish any precise quantitative relationship between further mechanization and the resulting increase in food production.

It is possible to make a very rough calculation of the extent to which increased use of tractors would replace other draft animals and thus release land for human food production. Assuming that the tractor requirements were fully met, less than 4 percent of the arable land would be so released.

While the data on farm equipment requirements are included in the report of the Food and Agriculture Committee of the CEEC, it has not been made clear, either in the report or in conversations with representatives of that Committee in Washington, to what extent the planned production of food is dependent upon getting all the stated equipment requirement. In addition to the practical difficulty of demonstrating any direct quantitative relationship between mechani-

zation and yields, limitations of time apparently precluded this sort of correlation between the estimates.¹

Without questioning the ultimate desirability of farm mechanization, the question may be appropriately raised whether it is either feasible or necessary to accomplish this mechanization within the 4-year period. Entirely aside from whether the equipment can be made available, there is the need to provide adequate distribution and servicing arrangements, to adjust the size of fields and farm units for mechanical operation, to train farmers in the effective use of new tools, and possibly to make a variety of other adjustments for the most effective use of equipment, land and manpower.

Production goals are equally ambitious.—With the exception of a small deficit in the first of the four years, the 16 nations, as a group, plus Western Germany, propose to supply almost all of their requirements for medium and light tractors through an enormous increase in their own production. Output, already more than double the prewar average, is scheduled to be more than 10 times that prewar figure by 1951. This would cover the large stated requirements and leave almost half the production for export. The United Kingdom alone proposes to produce more than the stated requirements of all 16 countries plus Western Germany.

The participating countries also plan to expand their output of all other farm equipment and parts to over three times the 1946-47 rate by 1951. While there is room for doubt as to their ability to achieve these objectives, it seems clear that this country should encourage and assist that expansion.

Specific instances have been called to our attention where output of European implement plants has been curtailed for lack of small quantities of special steel or partly fabricated parts from the United States. The export of such materials would be a much smaller drain on our economy than the corresponding quantities of finished machinery.

Doubts as to the ability of the CEEC countries to achieve their medium and light tractor production goals are partially offset by questions as to the reasonableness of the requirements. If both production goals and stated requirements are too high, the errors tend to cancel out, leaving import requirements substantially unchanged.

In addition to stated requirements for medium and light tractors which probably can be met by continuing the present rate of exports, the CEEC countries hope to receive 50,000 heavy tractors over the 4-year period from the United States. The stated requirement is for tractors over 30 horsepower with a total value of more than 200 million dollars. Most of these would be track-laying tractors. While tractors of this type are desirable for certain special conditions such as exist in parts of Northern Africa, the number estimated to be required is surprisingly large. It is larger than the total sales of such tractors by United States producers for farm use, including both domestic and export markets.

¹ Representatives of our farm equipment industry, to whom the Committee turned for help in preparing this report, have outlined a procedure for developing more reliable data on European requirements than was possible in the limited time available to the CEEC. This survey would require a small staff of Government specialists working closely with the European organizations of the farm machinery producers and would take some time to complete. It is beyond the scope of this Committee but further consideration of the proposal by the appropriate Government agencies is recommended.

Equipment other than tractors accounts for the larger part of the import requirements from the United States which are stated in the CEEC report at about 950 million dollars for the 4 years. Data as to other types of equipment required are not yet available, but it may be presumed that much of the required imports from the United States are tractor mounted implements to replace horse drawn implements. They would also include up-to-date and more complicated equipment. They probably cover service parts, including those for tractors.

The required imports of the other equipment for 1948, as given in the CEEC report, are almost 10 times as large as our recent rate of exports to those countries. They would account for almost a third of total United States production of these items.

With the help of the principal United States exporters of agricultural machinery, the Committee has obtained a tabulation of "requirements" of the European distributors for these companies for the calendar year 1948. An adjustment was made to include the nonreporting companies, which account for about 5 percent of the export volume.

These data exclude Austria, Luxembourg, Western Germany, and the Colonial areas. They include heavy crawler tractors for nonfarm use. Other differences make comparisons with the CEEC report difficult. Nevertheless they are illuminating.

These "requirements" apparently are the dealers' estimates of the quantities of United States produced equipment they think they can sell and be paid for in local currencies. Since the typical farmer in these countries is relatively well off financially, and since he is faced with a shortage of goods to be bought with the proceeds of the sale of his farm products, it would appear that these estimates are a reasonable measure of his willingness to mechanize his farm.

These dealers' requirements suggest that the CEEC report has underestimated the need for United States produced medium and light tractors and overestimated the need for the heavy tracklaying types—assuming these are for farm use. The dollar aggregate of the dealer estimates for all tractors is actually much greater than the requirements for 1948 as given by the CEEC.

The dealers' estimates for other farm machinery, including tractor attachments and parts, are about half as large as the net import requirements for 1948 given by the CEEC for the same countries. This would suggest a major overstatement in the CEEC report for these types of equipment. However, the CEEC includes a large import requirement for Western Germany which is not included in the industry tabulation.

Combining tractors, other implements, and parts—and after some crude adjustments for comparability—the dealers' estimates are substantially less than the 1948 requirement given by the CEEC.

Because of the shortage of dollar exchange in non-European countries, and because of the desire of the industry to cooperate in any program of aid to Europe, the contemplated allocations of 1948 production of all tractors and farm implements to Europe from United States producers are roughly one-third above the 1947 shipments. This is significant, since any Government decisions are likely to come so late as to make any further adjustments of 1948 schedules difficult. For most companies the 1948 fiscal year actually begins in late 1947.

Even with this increase, the contemplated allocations are only half the dealers' estimated needs—which, however, is about the same ratio

as in this country. They are, of course, a smaller fraction of the requirement as given by the CEEC. Allocations of crawler tractors are only one-fifth of dealers' estimates. Wheel type tractors and other implements are one-half and service parts 80 percent.

In summary, the amount of American-produced equipment which these countries could use to full advantage over the next four years appears to be substantially less than their stated requirements but more than they are now receiving from us. The problem is to balance this need against the demands of United States farmers, which are also well in excess of the productive capacity of the industry.

Twice the recent annual rate of our exports to these countries of all farm equipment and parts would still be only about 6 percent of our total production. Given the probable increase in production and the possible decline in exports to other areas, it would not prevent a small increase in the quantities available to domestic farmers. It would, however, give the European farmer a preferred position. This is the most that could be furnished without serious doubts as to their ability to use increased quantities effectively in furthering their food production program.

European Tractor Requirements

[Excluding nonfarm tractors]

[In thousands]

	Total on farms ¹		Requirements ¹		
	Prewar ²	1946-47	Average 1934-38	1946-47	Average 1947-48 to 1950-51
Austria.....	2.2	3.0	0.2	3.0	1.9
Belgium.....	1.4	5.0	1.5	2.0	2.6
Denmark.....	2.0	4.4	.3	1.7	7.2
Eire.....	3.8	6.0	.3	2.5	2.5
France.....	33.0	58.0	25.0	15.0	62.5
Greece.....	1.6	1.4	1.5	1.0	1.4
Iceland.....	n. a.	n. a.	-----	-----	.5
Italy.....	38.0	45.0	3.0	2.7	3.2
Luxembourg.....	n. a.	n. a.	-----	.1	.1
Netherlands.....	5.0	6.0	.5	1.6	3.0
Norway.....	2.8	4.3	.4	1.5	1.5
Portugal.....	n. a.	n. a.	.8	-----	.3
Sweden.....	10.0	20.0	2.3	5.2	7.5
Switzerland.....	8.2	13.5	1.5	2.0	2.5
United Kingdom.....	60.0	190.0	12.0	42.5	81.6
Turkey.....	n. a.	n. a.	-----	.2	.9
Western Germany.....	n. a.	n. a.	9.6	17.6	13.0
Colonial areas.....	n. a.	n. a.	2.1	6.2	18.6
Total.....	n. a.	n. a.	60.9	105.1	209.8

¹ Source: Food and Agriculture Organization of the United Nations.

² As given in CEEC report. Production plus imports minus exports.

³ 1935-38 or 1938-39 average.

n. a. Not available.

European Requirement of Other Agricultural Machinery ¹

[In thousands of metric tons]

	Average 1934-38	1946-47	Average 1947-48 to 1950-51
Austria.....	10.9	43.6	35.5
Belgium.....	37.5	60.0	66.2
Denmark.....	18.0	20.1	46.0
Eire.....	4.5	10.2	11.4
France.....	...	100.0	616.0
Greece.....	94.0	39.0	61.8
Iceland.....	...	...	...
Italy.....	43.0	36.0	50.0
Luxembourg.....	2.0	1.6	4.0
Netherlands.....	18.6	29.3	41.5
Norway.....	...	...	9.1
Portugal.....	...	...	1.1
Sweden.....	...	...	3.0
Switzerland.....	8.9	10.7	9.4
United Kingdom.....	30.0	130.0	186.5
Turkey.....	2.5	3.0	45.0
Subtotal.....	299.9	486.5	1,193.9
Western Germany.....	...	357.9	314.6
Colonies.....	21.0	18.0	86.0
Total ²	320.9	841.4	1,583.9

¹ As given in CEEC report. Requirement equals production plus imports minus exports.

² These totals, as given in the CEEC report, differ slightly from the sum of the individual country items. The discrepancies are not explained.

United States Production and Exports of Farm Machinery, Including Tractors for Nonfarm Use

[In millions of dollars]

	Manufacturers' sales		Exports ¹
	Total	For export	
1939.....	421	63	69
1940.....	498	68	77
1941.....	671	75	82
1946.....	1,016	116	158
1947 (estimated).....	1,225	² 210	² 300

¹ Exports are at port valuations rather than factory prices and are inclusive of all exports rather than only manufacturers sales for export.

² Annual rate in first 6 months.

Manufacturers Sales, 1946

	Total	For export
Tractors for farm use.....	303	54
Tractors for nonfarm use.....	129	31
Other equipment.....	584	31
	1,016	116

United States Exports 1946 and First Six Months of 1947 at Annual Rates

	1946	Percent	First half 1947	Percent
Northern North America.....	60.6	38.3	102.1	33.9
Latin America.....	35.9	22.6	73.9	24.5
Europe.....	35.7	22.5	67.2	22.3
Asia.....	5.1	3.2	17.9	5.9
Oceania.....	6.4	4.0	12.9	4.3
Africa.....	14.7	9.3	27.7	9.2
Total.....	158.4	99.9	301.6	100.1

Report on Iron and Steel

I. Summary and Conclusions

A. General

While the steel-making facilities of the United States will not be fully utilized due to several factors which are retarding production, and which are described in detail in the body of this report, the latest estimate indicates that 1947 production of finished steel mill products will be more than 62 million tons, thus establishing a new peace-time record, and that year-end figures may possibly exceed the war-time record established in 1944 when production totaled 63.25 million tons.

If steel exports from the United States to other nations continue at the rate established during the first 8 months of this year, over 6 million tons of finished steel will be shipped to foreign markets, leaving some 56 million tons for domestic use.

There are no data available from which we can accurately gauge the percentage of steel production required to re-establish war depleted inventories at all levels, and the balance available for actual consumption by our domestic industry.

The fact remains, however, that current demand is in excess of supply. The deficiency is particularly acute in the case of certain mill products, notably pipe, sheet, and strip and is retarding capacity production in important segments of our domestic steel consuming industry. It is also apparent that the needs of many small consumers of minor steel products such as nails and other building materials, are not fully satisfied, although this may be due to faulty methods of distribution rather than inadequate production.

Nevertheless, the record-breaking tonnage available for domestic consumption is an important factor in raising the volume of industrial production in this country to a new high level and providing jobs for the largest labor force in the nation's history.

Any analysis of the ability of our steel industry to supply the tonnage required to completely fill the needs of our domestic steel consuming industry, and at the same time to supply the tonnage required for the physical and economic rehabilitation of the participating nations, as well as the essential peace-time requirements of other nations dependent on us, must take into consideration the expansion program inaugurated by the steel industry after the end of World War II and now in advanced stages of completion.

While it is difficult to catalogue each project, the objectives are the elimination, so far as possible, of bottlenecks now retarding production with existing facilities, the construction of substantial new capacity and readjustment of productive facilities to meet the postwar change in the pattern of steel products. Dollar-wise the program may be conservatively estimated at more than 1 billion dollars. Tonnage-wise the new facilities scheduled for completion in 1947 and 1948

will provide more than 2.5 million tons of additional steel ingot capacity, supported by some 3 million tons increase in coke capacity and 3 million tons in blast furnace capacity. New facilities for finished mill products include some 3 million tons of sheet mill capacity, together with substantial increases in other finished products.

Some consideration should also be given to the probability that further progress in filling the war depleted inventories of United States industry will also increase the tonnage of steel available for actual fabrication.

B. Steel Requirements of the Western European Nations

The Iron and Steel Subcommittee of the participating nations, stressing the importance of steel as the core of the industrial systems of their countries, and reciting in great detail the inadequacy of their present production to meet their internal needs, as well as to provide the steel required for the restoration of their export trade, has presented a comprehensive statement of import requirements deemed to be essential to the accomplishment of these objectives.

The requirements include modern furnaces and mills designed to balance and expand capacity in some of the countries, as well as to replace obsolete and high cost equipment, raw materials for increasing the production of existing facilities and new facilities requested from the United States, steel in semi-finished form needed to be reprocessed into finished mill products, principally for re-export, and finished steel products.

There is also an indirect requirement for finished steel mill products needed to produce the durable and consumer goods but this requirement is not included in the estimates supplied by the Iron and Steel Subcommittee of the participating nations.

Excluding these indirect requirements, the total value of the import requirements from the Americas is estimated at approximately 2 billion dollars. The estimated value of the portion required from the United States is 1.95 billion dollars.

Assuming the successful outcome of various measures to restore prewar capacities and production presently being undertaken by the participating countries and now in varying stages of planning and accomplishment, it is estimated that the procurement of the equipment, raw materials and semifinished steel requested from the United States will make it possible for the participating nations to restore production of crude steel in 1948 to a point slightly above the output of the most active prewar years, and the 1951 output is estimated at some 60 percent higher than the output expected for 1947, and 25 percent higher than the aggregate of the most active prewar years.

In terms of finished steel production, the percentage increases are somewhat higher. However, attention is called to the fact that these figures do not include production in Western Germany, and that the programmed production of the participating countries, together with that of Western Germany, will result in an output of crude steel in 1948 of 23 percent below the aggregate of the most active prewar years, and that the full 4-year period will be required by the participating countries to compensate for the decrease in the output of Western Germany. Therefore, the program covering import needs from the United States calls for a substantial tonnage of finished steel in 1948, with substantially lesser amounts in subsequent years, except

in the case of tin plate, the requirement for which continues at approximately the same rate throughout the 4-year period.

There is considerable variation in the specific requirements of the participating nations and substantial fluctuation in the yearly needs. The ability of the United States to meet these varying needs can only be judged by considering each major item separately.

C. Steel-making Materials

The net tons of scrap required in the several years are: 1948—1,500,000; 1949—2,000,000; 1950—2,300,000; and 1951—2,500,000.

These requirements represent from 8 percent in 1948 to 11 percent in 1951 of the total estimated scrap consumption of the participating nations. If adequate coke supply is not available the requirement for scrap will be increased. If their scrap requirements cannot be met, they will require alternatively from the United States the equivalent amount of pig iron.

At the present time, scrap is the most important retardant to capacity production in the United States. Steel production in this country will suffer in direct proportion to the tonnage of scrap exported, as will the production of innumerable foundries.

Shortages of scrap throughout the world will aggravate steel shortages in 1947. In the United States alone the loss of steel due to inadequate scrap supplies is estimated at 3 million tons or more. A sustained effort must be made in all countries to secure maximum supplies of scrap. If possible, the United States Government should return scrap from certain foreign areas where scrap supplies are not as urgently needed for steel production as they are here. The Government should also speed up the process of declaring and releasing as scrap any unusable surplus materials and equipment. Steel producers are installing or expanding pig iron capacity in an effort to alleviate the expected continuance of the scrap shortage and are speeding up technological improvements such as the use of oxygen or wider use of higher pressure in blast furnaces.

Scrap cannot be safely exported at this time.

The net tons of ferro-manganese required in the several years are: 1948—60,000; 1949—75,000; 1950—86,000; and 1951—91,000.

The United States is dependent on other countries for manganese ore. Ferro-manganese is essential to steel production. Domestic requirements are about 700,000 tons annually. United States Government authorities responsible for stockpiling policy should be consulted as to availability of ferro-manganese for export.

D. Steel

The requirements for semifinished steel in the several years, in net tons, are: 1948—2,244,000; 1949—2,299,000; 1950—2,475,000; and 1951—2,387,000. These figures include ingots, blooms, billets, slabs, sheet bar and hot rolled bands for cold rolling, and exclude tube rounds.

The bulk of the semifinished steel requirement is requested by the United Kingdom. The United Kingdom expects to export approximately the same quantity of finished steel in order to reduce its balance of trade deficit.

For comparative purposes, the above requirement for 1948 is 40 percent of the amount of semifinished steel now being furnished the

non-integrated producers in the United States by the integrated mills. The importance of this is in the fact that only 80 of the 225 steel-product manufacturers have steel-making facilities. Further reduction of semifinished steel shipments to the non-integrated mills in this country will serve to aggravate an already very serious shortage in the needs of those producers of finished steel.

An equally or even more serious situation resulting from the export of semifinished steel is the loss of "recirculating" scrap (scrap generated in the processing of ingots to finished mill products which is the essential source for about 60 percent of the steel makers' scrap requirements.)

At the current rate, 574,000 tons of semifinished steel will be exported during 1947, 396,000 tons going to the participating nations. It is clear that only part of the stated needs can be met by additional exports from the United States. This may not prove to be so serious as might appear. The real requirements, when more closely studied in the course of administering the program, may prove lower than stated. It may be that some part even of real requirements can be left uncovered without serious effect on European recovery, so long as the resulting loss of dollar earnings is taken into account. The supply of semifinished steel products for Europe may also be increased in ways not related to the over-all size of United States exports: Shipments to Europe could be increased to the extent that shipments to other destinations decline, and more semifinished products than now planned might be supplied from Germany. The Committee believes that a solution can be reached by which quantities, proved essential for European recovery by careful examination, can be supplied.

While some additional cost would be involved, the requirement might be met by bringing idle Bessemer and electric furnaces into operation, were it not for the material problem. This should be the subject of continuing study.

The requirements for sheets and strip steel, in net tons, are: 1948—424,000; 1949—198,000; and 1950—34,000.

These diminishing requirements reflect anticipated procurement of new sheet mills by the participating countries. At present rates 164,000 tons of sheet and strip will be furnished those countries in 1947. The 1948 requirement cannot be met however without reducing correspondingly the 818,000 tons being exported to all nations, or in lieu of that, reducing the domestic supply which is now in critically short supply.

Inasmuch as new United States capacity will become effective during 1948, which will ease the domestic shortage, it would seem that some part or all of the 260,000 tons, representing the difference between 1947 expected shipments and 1948 requirements, can at the discretion of the United States Government be reallocated from the 654,000 tons which are being shipped in 1947 to other than participating nations.

This would appear to be the only way to attain the objective of 424,000 tons to the participating nations in 1948 without seriously further disrupting the domestic economy by continued reductions in the work schedules of the automotive industry and others, adding to the so-called gray market problem and, in fact, possibly driving some of the smaller fabricators out of business.

Tin-plate requirements in the several years, in net tons, are: 1948—320,000; 1949—314,000; 1950—296,000; and 1951—275,000.

Tin plate is currently being produced in the United States to the extent of capacity and the availability of tin. Total exports in 1947 are estimated at 561,000 tons of which 125,000 tons, according to the pattern of the first 6 months, will be shipped to the participating nations.

Worldwide consumption of tin plate varies with the crop conditions prevailing in each area. To forecast the requirements of tin plate over a 4-year period is impossible. If the food pack falls below normal in the United States, the problem is minimized. According to our present view, no increase in exports can safely be made. Reallocation of present total exports may offer temporary relief.

Requirements for other finished steel-mill products are 500,000 net tons for 1948.

No serious problem is anticipated since the total exports of products falling in this category will probably amount to 4 million tons in 1947.

Further consideration may be necessary when stated requirements are broken down into more detail. Furthermore, requirements for certain products such as pipe and tubular products are not considered in this report pending receipt of more specific information as to requirements.

In this connection, however, attention is called to the fact that 4.5 million tons of finished steel are estimated to be required for the production in this country of the manufactured equipment included in the over-all program of the participating nations.

E. Steel Mill Equipment

A program for steel mill equipment has not yet been presented in sufficient detail as to justify any opinion as to availability. The total cost is roughly estimated at 400 million dollars assumed to be equally distributed over the 4-year. Apparently, a portion of this equipment amounting to about 60 million dollars is already covered by orders placed with various producers in the United States.

II. The Current Steel Situation in the United States

A. Capacity to Produce

The United States is the only important steel-producing nation in the world which regularly measures and reports the producing capacity of its steel industry.

Reliable data are available to show capacity for producing pig iron and ferro-alloys in blast furnaces, as well as capacity for producing steel ingots and castings by the various steelmaking processes. Corresponding measurements of capacity for producing finished steel products from the ingots, however, are not practical, because, generally speaking, many of the major production units are flexible. For example, billets and heavy rounds can be rolled on rail mills and light plates can be rolled on continuous sheet mills.

Growth of the steel industry in the United States in the 10 years since 1937 is illustrated by the following comparisons:

1. Ingots and steel for castings.—

United States capacity

1937 (million net tons).....	78.1
1947 (million net tons).....	91.2
Percent increase.....	17

World production

[In millions of net tons]

	1937	1946	1947 (estimated)	Percent change 1947 over 1937
United States.....	56.6	66.6	84.6	+49
All other countries.....	92.6	58.7	59.7	-36
Total world.....	149.2	125.3	144.3	-3
United States as percent of world total.....	38	53	59	

2. Total finished steel products.—

United States shipments

1937 (million net tons).....	38.3
1947 (million net tons) (estimated).....	62.3
Percent increase.....	63

Both blast furnace and steel capacity today are greater than they have ever before been in peacetime. To a negligible extent both have declined somewhat from the peak capacity recorded during World War II, due almost entirely to the abandonment of obsolete or uneconomic facilities after the close of hostilities. Current capacity, however, is substantially greater than actual peak production during the war period and is being increased.

3. *Blast furnace capacity.*—As of January 1, 1947, total blast furnace capacity in the country is rated at 65,709,200 net tons per year (table 1, appendix).

At the beginning of 1937 blast furnace capacity was rated at 55,557,000 tons per year. The current figure represents a net increase of more than 18 percent over the 10-year period.

New coke ovens are under construction at plants of five different companies in the industry. Two of these companies have not reported tonnage increase in coke capacity. Data reported by three companies, however, show aggregate increase of 2,940,000 net tons per year in their coke capacity. Blast furnace expansion and improvement projects are reported by nine companies. Total apparent increase in blast furnace capacity will be 2,996,500 tons per year, with one company not indicating a specific tonnage increase.

4. *Steel capacity.*—As of January 1, 1947, total steelmaking capacity of the American steel industry is rated at 91,241,000 ingot tons per year (table II, appendix) equivalent under a perfect pattern of production and yield of 72 percent to approximately 65 million tons of finished products per year. Current steelmaking capacity is 17 percent greater than capacity as of January 1, 1937, which was just about the prewar peak.

Steel capacity is being increased by 13 companies. The total increase reported is 2,521,500 tons per year, with one company not indicating a specific tonnage figure. Included in that total is some additional electric furnace capacity, but the bulk of the expansion program is in

the field of open hearth steels. In at least two of the companies planning to increase open hearth capacity, the increase will come from greater amounts of pig iron available from new blast furnaces under construction. This additional pig iron is expected to offset in part the present inadequate supplies of scrap.

5. *Use of oxygen.*—Use of oxygen in both blast furnaces and steel-making furnaces will contribute some part of the indicated increase in capacity for those facilities. A recent survey of 17 major steel producing companies indicated that virtually all had been experimenting with the use of oxygen in blast furnaces, steel furnaces or both.

Three companies reported oxygen plants being under construction or contemplated. Eight companies are continuing to use oxygen either on an experimental basis or purchased from outside sources. Six of the companies reported no definite plans at the present time for either construction of oxygen plants or the use of oxygen.

Companies which have proceeded far enough with experiments to indicate results hope for 10 to 15 percent increase in blast furnace production through use of oxygen. In open hearth furnaces, the results on the individual heats have indicated increases up to 30 percent or more in tonnage. (See exhibit 1, appendix).

6. *Rolling mills.*—Expansion and improvement of rolling mill capacity is being undertaken by 20 companies. Included in their construction programs are at least 7 new mills for producing hot rolled sheet and strip, and at least 12 new cold reducing mills for sheet, strip, and tin mill products. Four new bar mills and two new rod mills are under construction or planned. Likewise included in the program is a considerable amount of improvement of existing facilities of sheet and strip mills to increase capacity.

7. *Other finishing equipment.*—Installation of other types of finishing equipment is planned by 21 companies. Additional facilities for producing butt-weld, electric weld and large diameter pipe are under way in 7 companies. Other projects include installation of additional galvanizing units, picklers, tin mills, wire drawing equipment, and new facilities for producing cold drawn and cold finished bars.

Indication of the extent of the expansion program in various companies is shown on tables 3 a, b, c, and d.

B. Steel Production and Current Retarding Factors

For more than a half a century, the United States has been the leading steelmaking nation of the world. In the years between the close of World War I and the beginning of World War II, from 25 to 45 percent of the world's annual steel output was made in this country. Since 1943, more steel has been made in the United States than in all the rest of the world combined. In 1947, close to 60 percent of world production will be made in the United States.

Production of ingots and steel for castings in the first 9 months of 1947 totaled 62,611,000 ingot tons, equivalent to a rate of 84,000,000 tons of ingots, or about 62,300,000 tons of finished products for the year.

At the present rate, steel production in 1947 will exceed by a wide margin the previous record production in a peacetime year and will come within 5 percent of average production in the war years 1942-44, inclusive. Steel production in the first 9 months of 1947 was at the rate of 91.7 percent of capacity.

At current production rates, blast furnace output in 1947 will fall about 7,100,000 tons short of rated capacity. Steel output will be approximately 7,000,000 tons below capacity.

A substantial part of those tonnages could have been produced if the industry had been able to operate under more favorable conditions during 1947.

Among the factors retarding production in 1947 are:

1. Unsatisfactory scrap supply, both as to quality and as to quantity, represents by far the most important factor in preventing steel output from reaching capacity. As shown in table 4, appendix, stocks of scrap in 1947 have fallen 40 percent below the level of 1943. Steel-makers have attempted to offset the scrap shortage by using a higher proportion of pig iron and ore in the open hearth charges. Because coal and coke supplies would not permit full capacity operation of blast furnaces, however, the scrap shortage could not be completely offset. Consequently, approximately 3 million tons of steel will be lost during 1947 because of the scrap situation.

2. Decline in coal quality which has reduced pig iron output in some plants by as much as 10 percent. The ash content of coking coals has risen from about 6 percent in prewar years to 12 percent in 1947. In addition, wider use of machine mining has introduced more slate in the coal. The higher ash and lower carbon content have increased coke consumption per ton of pig iron from approximately 1,760 pounds in 1939 to 1,868 pounds in 1946.

3. Spot shortages of coke have occurred both as a result of increased coke requirements per ton and because of coke oven operating problems. Many beehive ovens are located near exhausted mines and no transportation facilities are available to bring in coal from elsewhere. A number of beehive oven installations are beyond repair. It is reported that over 30 percent of byproduct coke ovens are over 30 years old, beyond the normal life of such facilities. Losses of production may occur at any time. New facilities are being built or are contemplated by steel companies to offset anticipated losses from old facilities. No new capacity is understood to be under construction by coke producers outside the steel industry.

4. The coal strikes, which reduced blast furnace production in July alone by approximately 500,000 tons, and prevented the production of about 900,000 tons of steel in the first eight months of 1947.

5. Inoperable facilities. A minor portion of the wartime-constructed blast furnace and steel plant facilities could not be turned to peacetime production, largely because of insufficient supply of raw materials or specialized design of plants and equipment.

6. Bessemer steel production has averaged only about 80 percent of capacity in 1947. Some part of the difference between production and capacity may reflect inadequate supplies of pig iron for use in Bessemer converters, but consumer preference for open hearth steel for many uses is a more important factor.

7. Electric furnace steel production has averaged only about 71 percent of capacity in 1947, chiefly because capacity for producing stainless steels and electric furnace grades of other alloy steels exceeds current demand. The higher cost of producing carbon steels in electric furnaces as compared to the open hearth process is a deterrent to more frequent specification of the electric furnace process by many users of carbon steels. Another factor limiting electric furnace steel

production is inadequate supply of scrap which is low in phosphorus and sulphur and virtually free of "incidental" alloying elements.

8. Steel and coal strikes in 1946 resulted in the loss of almost 16 million tons of ingots during the year. Part of this tonnage normally would have been used to build rolling mills and other equipment which steel companies had ordered for installation in 1947, many of which are not now expected to be in operation until 1948. The delay in receiving new rolling mill equipment has particularly effected shipments of flat-rolled products.

Correction of existing conditions in supply and quality of coal and coke, including elimination of further strikes and work stoppages, would permit increased pig iron production by as much as 5 million tons per year. Such a tonnage would materially assist in overcoming present and anticipated deficiencies in scrap supplies, and permit open hearth steel production at virtually full capacity.

In addition, these steps are vital in augmenting the presently depleted scrap inventory:

1. Acceleration by the Government owning agency of the declaration and sale of surpluses, which, it is estimated, will produce in excess of one million tons of scrap.

2. Exertion of maximum efforts by all countries to collect available supplies of scrap, and the return of scrap or surpluses destined for scrap to the United States from certain foreign areas, particularly the islands of the Pacific.

3. Purchase of scrap from any foreign countries which may have large surpluses.

C. Raw-material Requirements for Operation at Existing Capacity

The current situation with respect to coking coal quality and the supply of scrap is in part responsible for the fact that steel production is not now at full capacity. Examination of the raw material requirements for operating at full capacity, however, indicates that with the exception of scrap, pig tin, and palm oil, adequate supplies exist for virtually all major materials if supply lines remain open. In some cases, problems of deterioration of quality may adversely affect production, but these problems may be offset through changes in technology, through construction of secondary facilities such as coal washing and sintering plants, etc.

Table 5, appendix, estimates the tonnages of raw materials required for full operation of blast furnaces and steelmaking equipment at present capacity and product mix.

1. *Supply and quality of raw materials.*—*a. Iron ore.*—The amount of ore required for capacity operation of existing blast furnaces exceeds by nearly 8 million tons the maximum shipments of 1942, the highest in history. Ore reserves are sufficient to supply those requirements, but lake and rail transportation facilities would be put to a severe test.

- b. Coking coal.*—Reserves of high volatile coking coal are adequate, but there is question whether they are of the quality necessary to sustain blast furnace operation at full capacity without washing and similar treatment. Coal quality has deteriorated since 1939 to such an extent that where in that year normal ash in coke was about 6 percent, it is now running 12 to 14 percent, which causes a loss of some 10 percent in blast furnace productivity.

c. Limestone.—The quality of limestone has deteriorated; present shipping grades contain too high a percentage of fines and too high a percentage of sulfur. The first condition, when coupled with the coke condition previously mentioned, makes necessary higher slag volume. This increases coke and limestone consumption, therefore reducing the wind on blast furnaces which reduces productivity. High sulfur content of the limestone also increases the time of heats in the open hearth and reduces the tonnage of ingots which may be allocated to the production of flat rolled products where high sulfur content is deleterious to surface quality and forming quality.

d. Fuel oil.—The fuel oils which are being delivered similarly, because of high sulphur content, interfere with steel production, particularly of flat rolled. In addition, oil companies at the present time are experiencing difficulty in meeting their delivery schedules to the steel industry, and the oil industry has advised various members of the steel industry that a serious shortage of fuel oil is contemplated in the near future.

e. Scrap.—A major reason for the steel industry's inability to utilize completely its existing steel capacity has been the continuing shortage of scrap iron and steel. Stocks of scrap in the hands of suppliers and consumers on August 31, 1947, according to the United States Bureau of Mines, amounted to 4,470,000 tons considerably less than the 7,500,000 tons on hand in September 1939, when the European War broke out (table 4, appendix).

There are four principal reasons for the loss of scrap and potential scrap during the prewar and war period. They are:

(i) From 1934 through 1940 more than 20 million tons were shipped to foreign countries, largely to Japan, Great Britain, and Italy. Prior to that time only nominal tonnages were exported.

(ii) Annual consumption of purchased scrap in United States furnaces during the period 1941-45 was 50 percent higher than in the 1936-40 period, further depleting supplies.

(iii) During and since the war the rate of which many items manufactured from iron and steel have been scrapped has declined sharply due to unavailability of replacements or the tremendous need for such items in any condition.

(iv) A serious drain upon the nation's resources of potential scrap was the shipment abroad of an estimated 123,800,000 tons of steel during the war in the form both of steel mill products and of items made of steel (table 6, appendix). That tonnage represents about eight years' potential supply of purchased scrap for the steel industry at peak rates.

These factors indicate that the steel industry faces a shortage of "purchased" scrap for some time to come. The shortage can be offset to some extent, however, through the production of additional pig iron, from increased production of synthetic scrap in idle Bessemer converters, and from the use of more iron ore in open hearth furnace charges. These methods, however, impose an additional drain upon irreplaceable iron ore resources. Exhibit 2, appendix, is a discussion of the possibilities of sponge iron as a source of metallics.

f. Tin and palm oil.—Both of these items, which are used in the manufacture of tin plate for cans and other purposes, are now in short supply. Improvements may be expected in tin supplies as production in Malaya and Siam resumes. Improvement in the supply of imported

palm oil is less imminent. A research project at the Illinois Institute of Technology, sponsored by American Iron and Steel Institute, is working toward the development of an efficient substitute for palm oil.

D. Shipments of Finished Products

Every major outlet for steel except the shipbuilding and aircraft industries and the export market is receiving more steel in 1947 than in 1940, according to the compilations by American Iron and Steel Institute of shipments of steel products by market classifications (table 7, appendix).

For 1940, the earliest year for which comparable data are available, distribution of a total of 45,851,000 tons of steel products among the various market classifications was reported. In the first six months of 1947, shipments were at the rate of 62,344,000 tons per year, or 36 percent above the 1940 level.

Shipments to the automotive industry in 1947 have been at the annual rate of 1,625,000 tons above 1940, while shipments to the construction industry have been at the rate of 3,147,000 tons higher. Steel shipments to manufacturers of machinery and industrial equipment have been 2,134,000 tons, 192 percent higher.

In general the distribution of total steel shipments among the various market groups in 1947 follows a pattern similar to that prevailing in 1940. Some markets, like construction, steel converting and processing, containers, machinery and industrial equipment, are receiving substantially larger shares of the total tonnage of steel shipped. The automotive industry is receiving a somewhat smaller share of the total than in 1940, and marked declines appear in the shares going for shipbuilding and for export.

1. *Change in product mix, 1937-47.*—Comparison of 1937 with 1947 statistics of shipments of steel shows marked and approximately equal percentage increases in production of various products over the 10-year period.

At the rate of shipments in the first half of 1947, approximately 62,344,000 tons of semifinished and finished steel products will be shipped from the mills this year. That total is 63 percent greater than the 38,345,000 tons of products shipped in 1937.

In both years, sheet and strip steel represented by far the largest tonnage. In 1937, a total of 11,167,000 tons or 29.1 percent of all shipments was in the form of steel and strip steel, compared with the record-breaking rate of 18,000,000 tons or 28.9 percent of the total in 1947. Despite the increase of 61 percent in shipments of those products between 1937 and 1947, sheet and strip continue to be in tight supply.

Plate shipments in 1937 amounted to 3,374,000 tons (8.8 percent of the total). In 1947 plate shipments are running 87 percent higher, at the rate of 6,300,000 tons per year (10.1 percent of the current shipment total). Shipments of bars in 1947 are 82 percent above the 1937 level.

Shipments of tin mill products in 1947 are setting new records for total tonnage, although the 39 percent increase over 1937 is smaller than for certain other products. At current rates, 4,240,000 tons of tin plate and black plate will be shipped in 1947, or 6.8 percent of total shipments. In 1937, tin mill products shipments amounted to 3,053,000 tons (8.0 percent of the total)—a record tonnage up to that time.

The following table compares 1937 with 1947 shipments of major groups of steel products.

Net Shipments

[In millions of tons]

Major product groups	1937	1947 ¹	Percent increase over 1937
Semifinished.....	2.1	2.8	33
Structurals and piling.....	2.9	4.8	66
Plates.....	3.4	6.3	87
Rails and accessories.....	2.2	3.3	50
Bars.....	6.3	11.5	82
Pipe and tubes.....	3.9	6.0	54
Wire rods, wire and wire products.....	2.9	4.9	69
Tin mill products.....	3.1	4.2	39
Sheets and strip.....	11.2	18.0	61
All other.....	.3	.5	66
Total.....	38.3	62.3	63

¹ 1947 net shipments estimated by doubling first 6 months 1947 net shipments reported by American Iron and Steel Institute.

2. *Sheet and strip steel.*—The record-breaking tonnage of sheet and strip steel which is being produced in 1947, although lagging behind immediate demand, is supplying every one of the major domestic outlets with a greater tonnage than was shipped in 1940 (table 8, appendix).

In 1940, when comparable data on distribution of steel products first became available, shipments of 12,553,000 tons of sheet and strip steel were so reported. The total of 9,021,000 tons reported in the first six months of 1947 is at an annual rate of nearly 18,042,000 tons—or 44 percent above the 1940 level.

As indicated in table 8 of the appendix, sheet and strip shipment to the construction industry in 1947 are running 157 percent above 1940 and 61 percent above 1941, when the war plant construction program was getting under way.

Sheet and strip steel shipments to the automotive industry this year are at the rate of 978,000 tons above 1940 and 230,000 tons above 1941, a peak year up to that time for shipments of sheet and strip to automotive plants.

Jobbers, dealers and distributors, which supply to so-called "small businesses" a large part of their steel requirements, are receiving sheet and strip in 1947 at the rate of 341,000 tons more than in 1940, and almost the same tonnage as in 1941. The agricultural industry is receiving sheet and strip at the annual rate of 414,000 tons in 1947, compared with 228,000 tons in 1940 and with 333,000 tons in 1941.

Although the pattern of distribution of sheet and strip shipments among market groups in 1947 is roughly similar to the 1940 pattern, there are some variations in the percentage of the total shipped to various markets.

Construction is receiving 12.3 percent of current sheet and strip shipments as against 6.9 percent in 1940 and 8.5 percent in 1941. Shipments to machinery manufacturers represent 8.2 percent of 1947 sheet and strip shipments, compared with 5.0 in 1940 and with 5.5 in 1941.

In the other direction, the automotive industry is receiving 31.5 percent of the 1947 total shipments of sheet and strip as against 37.5 percent in 1940 and 33.7 percent in 1941. The export market, which

accounted for 7.5 percent of all sheet and strip shipments in 1940 and 4.1 percent in 1941, is receiving 2.8 percent of the 1947 total.

E. Steel Inventories in Consuming Plants

Throughout the war period relatively little steel went for the manufacture of the ordinary goods of commerce—passenger automobiles, home refrigerators, and the machinery and plants to produce such goods. All goods nonessential to the war were cut off completely. Consequently at war end there was little if any inventory of raw steel suitable for peacetime products.

For the past 2 years steel shipments have been required to serve several purposes. First, steel has been required to fill the so-called "pipe line" which runs from the steel mill through the manufacturer of goods made from steel to the ultimate user of those goods. This has involved much more than building up adequate stocks of steel in the plants of consuming industries. It also included accumulation of adequate supplies of parts and subassemblies, spare parts and finished products at steel-consuming plants. At the same time it was necessary to build up stocks of finished products and spare parts in the hands of distributors at all levels, wholesale as well as retail.

The great tonnage of steel shipped has permitted considerable progress to date in filling this pipe line and has made possible record production of manufactured goods. The pipe line is not yet completely full, however, largely because the refilling process was badly interrupted during 1946 by strikes in steel plants, coal mines, and in plants of equipment manufacturers who were therefore delayed in furnishing new equipment to replace steel mill equipment which was obsolete or worn out through the stress of uninterrupted production for war.

In the two years since VJ-day, interrupted production resulted in the loss of production of an estimated 18 million tons of ingots, or about 13 million tons of finished products. That tonnage would have provided almost twice as much steel as was shipped to the entire automotive industry in 1940. Production losses from lack of scrap and from other causes total at least 3 million tons more.

Although interrupted production has postponed the time when the pipe line will be completely filled, there are evidences that steel inventories in the hands of consumers today are substantially greater than they were a year ago, and they may possibly be greater than they were at the peak of war production when industry was limited to a 60-day inventory.

The factor still retarding increased production of products dependent on steel is lack of balance in the inventory situation. For instance, while alloy steel is in plentiful supply, production of flat rolled steel, particularly in light gages, is still inadequate to meet demand.

When the inventory pipe line fills up and is well balanced, virtually all steel shipments to consuming industries will go directly into the finished goods manufactured by those industries. How much the production of goods made from steel will increase once inventories have been balanced cannot now be estimated, but this is a matter of continuing study.

F. Steel Exports and Foreign Steel Production

The United States, although the leading steel producing nation of the world, traditionally ranks well down the list of steel exporting

countries. In ordinary times Germany, England, Belgium-Luxembourg, and France export greater tonnages of steel than this country.

From 1919 through 1929, which included the postwar reconstruction years, an average of 7.7 percent of the finished steel produced in this country was exported. Throughout the decade 1930-39 steel exports from this country averaged only 5.7 percent of domestic production, reaching a high in 1937 of 7.6 percent.

In World War II as in World War I, steel exports from this country rose to abnormal levels. In 1940 and 1941 steel exports, the bulk of which went to England, averaged 13.4 percent of total production. From 1942 through 1945 they averaged 10.2 percent.

In 1946 and 1947, contrary to past experience, there has been a marked difference in the export tonnages of steel reported by the American Iron and Steel Institute and by the United States Department of Commerce. For the year 1946 and in the first 6 months of 1947, the Institute figures, which cover companies representing 98 percent of total steel production in the country, show shipments of 5,104,000 tons of steel products for export, or 6.5 percent of total shipments for all purposes during that period. By comparison, the Department of Commerce figures show total exports of 8,090,000 tons during those same months.

It is believed that the discrepancy between the two sets of figures may represent steel exported by jobbers and warehouses, by export brokers, and by the export of Government surplus steel products.

APPENDIX

Table 1.—United States Blast Furnace Capacity and Production, 1937-47

	Blast furnace capacity as of Jan. 1 (net tons)	Total blast furnace production (net tons)	Percent capacity operated
1937.....	55,557,305	41,171,187	74.1
1938.....	56,782,208	21,182,569	37.3
1939.....	56,325,830	35,396,478	62.8
1940.....	55,723,640	46,979,091	84.3
1941.....	57,774,640	56,070,506	97.1
1942.....	60,606,850	60,115,387	99.2
1943.....	64,188,220	61,920,314	96.5
1944.....	67,921,410	62,072,683	91.4
1945.....	67,313,890	54,166,482	80.5
1946.....	67,340,590	45,647,907	67.6
1947.....	65,709,200	58,680,000	89.3
Capacity on completion of new facilities now under way.....	68,700,000		

¹ Average annual capacity as of Jan. 1 and July 1.

² Annual production and rate of capacity estimated from operations in the first 7 months of 1947.

Source: American Iron and Steel Institute.

Table 2.—United States Steel-Making Capacity and Production, 1937-47

Years	Steel-making capacity, net tons				Steel production, net tons			
	Open hearth	Bessemer	Electric	Total	Open hearth	Bessemer	Electric	Total
1937.....	69,725,736	7,084,000	1,326,788	78,136,524	51,824,979	3,863,918	947,002	56,635,899
1938.....	71,472,370	7,212,800	1,480,858	80,176,028	29,080,016	2,106,340	565,627	31,751,983
1939.....	72,959,638	7,138,880	1,725,086	81,823,604	48,409,800	3,358,916	1,029,061	52,797,783
1940.....	73,721,592	6,009,920	1,882,630	81,614,142	61,573,083	3,708,573	1,700,006	66,981,662
1941.....	175,328,140	6,894,190	2,931,960	85,154,290	74,389,619	5,578,071	2,869,256	82,836,946
1942.....	178,177,770	6,721,400	3,983,570	88,882,740	76,501,957	5,553,424	3,974,540	86,029,921
1943.....	179,526,820	6,311,660	4,746,900	90,585,380	78,621,804	5,625,492	4,589,070	88,836,366
1944.....	182,415,060	6,074,000	5,361,550	93,850,610	80,363,953	5,049,923	4,237,669	88,641,575
1945.....	84,171,590	5,874,000	5,455,890	95,501,480	71,939,602	4,305,318	3,456,704	79,701,624
1946.....	81,236,250	5,154,000	5,500,290	91,890,540	60,711,963	3,327,737	2,563,024	66,602,724
1947.....	81,010,990	5,164,000	5,076,240	91,241,230	76,831,000	4,190,000	3,604,000	84,625,000
Capacity on completion of new facilities now under construction				93,800,000				

**Table 2.—United States Steel-Making Capacity and Production, 1937-47—
Continued**

PER CENT STEEL CAPACITY OPERATED

Years	Open hearth	Bessemer	Electric	Total
1937.....	74.3	54.5	71.4	72.5
1938.....	40.7	29.2	37.9	39.6
1939.....	66.4	47.1	59.7	64.5
1940.....	83.5	61.7	90.3	82.1
1941.....	98.8	80.9	97.9	97.3
1942.....	97.9	82.6	99.8	96.8
1943.....	98.9	89.1	96.7	98.1
1944.....	97.5	83.0	79.0	95.5
1945.....	85.5	73.3	63.4	83.5
1946.....	74.7	64.6	46.6	72.5
1947.....	¹ 94.2	² 81.3	² 71.0	² 92.2

¹ Average annual capacity as of Jan. 1 and July 1.

² Annual production and rate of capacity estimated from operations in the first 7 months of 1947.

Source: American Iron and Steel Institute.

Table 3a.—Expansion of Iron and Steelmaking Facilities (Under Construction and Contemplated)

Company	Improvements	Increase in capacity, net tons
	BLAST FURNACES	
1.....	Enlargement of blast furnace.....	175,000
2.....	New blast furnace.....	580,000
3.....	Improved blowing facilities.....	255,000
4.....	Enlargement of existing facilities.....	8,500
5.....	New blast furnaces.....	546,000
6.....	Enlargement of existing facilities.....	1,000,000
7.....	Enlarging furnace and new turbo-blowers; new turbo-blowers and mixer type ladles.....	n. r.
8.....	Modernizing two blast furnaces.....	400,000
9.....	Enlargement of existing facilities.....	40,000
	Total reported.....	2,996,500
	COKE OVENS	
1.....	New coke ovens.....	n. r.
2.....	Six batteries by-product ovens.....	1,900,000
3.....	Adding 34 coke ovens.....	n. r.
4.....	Constructing 106 coke ovens.....	560,000
5.....	Coke capacity to be increased.....	480,000
	Total reported.....	2,940,000
	STEEL FURNACES	
1.....	Building electric furnaces.....	240,000
2.....	Additional blast furnace capacity will increase open hearth capacity.....	125,000
3.....	New electric furnace.....	36,000
4.....	Alterations to one open hearth furnace.....	21,500
5.....	Installing automatic combustion controls on open hearth furnaces.....	n. r.
6.....	Two new open hearths and one electric furnace.....	768,000
7.....	Open hearth improvements.....	50,000
8.....	Additional blast furnace capacity will increase open hearth capacity.....	300,000
9.....	Added one new open hearth furnace and reconstructing two others.....	75,000
10.....	New open hearth furnace.....	150,000
11.....	Open hearth improvements, including benefits from new oxygen plant.....	440,000
12.....	New electric furnace.....	36,000
13.....	Steel ingot capacity to be increased.....	250,000
	Total reported.....	2,521,500

n. r.—Not reported.

Source: Reports to American Iron and Steel Institute, September 1947.

Table 3b.—Expansion of Iron and Steel-making Facilities (under Construction and Contemplated)

Company	Improvements	Increase in capacity net tons
	ROLLING MILLS	
1.....	New cold reduction mill and bar mill.....	n. r.
2.....	Additional hot rolled sheet capacity.....	180,000
3.....	Additional cold rolled sheet capacity.....	300,000
4.....	New 48-inch hot strip mill.....	240,000
5.....	New facilities for cold finishing stainless strip.....	21,600
6.....	Additional capacity to produce sheets, tin plate, bars, rods, wire and other steel products.....	2,000,000
7.....	Enlargement of existing facilities.....	n. r.
8.....	Improvements to increase wire rod capacity.....	72,000
9.....	Five new sheet mills.....	600,000
10.....	One hot strip mill.....	35,000
11.....	Increasing cold rolled strip capacity.....	6,000
12.....	Electrified hot bar mills.....	1,100
13.....	Improvement to 93-inch cold strip mill.....	36,000
14.....	Improved 5-stand tandem mill and continuous pickled.....	n. r.
15.....	Improvement to 77-inch hot strip mill.....	n. r.
16.....	Constructing additional ingot heating facilities.....	30,000
17.....	Installed new 7-stand hot bar mill.....	22,000
18.....	Installed three new annealing furnaces and one cold rolling strip mill.....	30,000
19.....	Installing new cold rolled strip mill.....	60,000
20.....	Enlarging existing facilities.....	n. r.
21.....	Constructing 4-stand 56-inch continuous cold reduction mill.....	220,000
22.....	New 14 inch continuous hot mill and present 10-inch mill revamped into continuous mill.....	180,000
23.....	New 28-inch 4-high reversing cold mill.....	36,000
24.....	Hot rolled capacity to be increased.....	420,000
25.....	Cold rolling capacity to be increased.....	870,000
26.....	New 20-inch cold rolled strip mill.....	25,000

n. r.—Not reported.

Source: Reports to American Iron and Steel Institute, September 1947.

Table 3c.—Expansion of Iron and Steel-making Facilities (Under Construction and Contemplated)

Company	Improvements	Increase in capacity, net tons
	OTHER FINISHING EQUIPMENT	
1.....	Zinc coating units, picklers, normalizing furnaces, box annealing furnaces, and soaking pits.....	n. r.
2.....	New heating furnaces, fuel oil storage, flanging machine, nickel plating, etc.....	n. r.
3.....	New large diameter pipe mill.....	115,000
4.....	New electric weld tube mill.....	7,500
5.....	Tin plate.....	500,000
6.....	Tubular goods.....	300,000
7.....	Wire production.....	80,000
8.....	Additional butt weld pipe capacity.....	15,000
9.....	Forging department capacity increased.....	600
10.....	Added one cold drawing unit and two straightening machines.....	n. r.
11.....	Increased capacity for drawing wire.....	2,000
12.....	Continuous wire drawing.....	n. r.
13.....	Construction under way increasing forging tool steel bars capacity.....	1,500
14.....	Increasing facilities of one of cold drawing bar units.....	7,000
15.....	Installing new multiple bar drawbench and modern bar turning machine.....	4,800
16.....	Installing wire drawing machines.....	1,100
17.....	Installed electric weld tube mill.....	n. r.
18.....	New equipment to increase pipe making capacity.....	100,000
19.....	Added cold mill annealing capacity, cold mill pickling capacity, and bluing capacity.....	n. r.
20.....	Tin plate capacity to be increased.....	163,750
21.....	Pickling capacity to be increased.....	300,000
22.....	Installing butt weld pipe mill.....	140,000
23.....	Equipment for cold drawing bars.....	25,000
24.....	New annealing furnace to increase cold rolled strip capacity.....	7,500
25.....	New machines for drawing wire.....	1,000

n. r.—Not reported.

Source: Reports to American Iron and Steel Institute, September 1947.

Table 3d.—Expansion of Iron and Steel-making Facilities (Under Construction and Contemplated)

COMPANIES WHICH SUPPLIED DATA FOR TABLES 3 A, B, AND C

BLAST FURNACES

Bethlehem Steel Co., Inland Steel Co., Jones & Laughlin Steel Corp., National Steel Corp., Republic Steel Corp., United States Steel Corp., Wheeling Steel Corp., Youngstown Sheet & Tube Co., and one company whose name cannot be disclosed.

CORE OVENS

American Rolling Mill Co., Crucible Steel Co. of America, National Steel Corp., United States Steel Corp., and Wheeling Steel Corp.

STEEL FURNACES

Allegheny Ludlum Steel Corp., American Rolling Mill Co., Bethlehem Steel Co., Jones & Laughlin Steel Corp., Laclede Steel Co., National Steel Corp., Phoenix Iron Co., Republic Steel Corp., Sharon Steel Corp., United States Steel Corp., Wheeling Steel Corp., Worth Steel Co., and Youngstown Sheet & Tube Co.

ROLLING MILLS

American Rolling Mill Co., Bethlehem Steel Co., Braeburn Alloy Steel Corp., Cold Metal Products Co., Crucible Steel Co. of America, Detroit Steel Corp., Granite City Steel Co., Inland Steel Co., Jones & Laughlin Steel Corp., Kaiser Co., Laclede Steel Co., National Steel Corp., Pittsburgh Steel Co., Pollack Steel Co., Republic Steel Corp., Sharon Steel Corp., Standard Steel Works, Thomas Steel Co., United States Steel Corp., and one company whose name cannot be disclosed.

OTHER FINISHING EQUIPMENT

Alloy Metal Wire Co., American Rolling Mill Co., Anchor Drawn Steel Co., Braeburn Alloy Steel Corp., Detroit Tube & Steel Co., Follansbee Steel Corp., Jones & Laughlin Steel Corp., Kaiser Co., Keystone Drawn Steel Co., Laclede Steel Co., Lukens Steel Co., National Steel Corp., New England High Carbon Wire Co., Pittsburgh Tube Co., Republic Steel Corp., United States Steel Corp., Wheatland Tube Co., Wheeling Steel Corp., Wright Steel & Wire Co., Wyckoff Steel Co., and one company whose name cannot be disclosed.

Table 4.—Stocks of Iron and Steel Scrap

Date	Consumers ¹	Net tons, suppliers (dealers and producers)	Total
Sept. 30, 1939.....	4,685,959	2,759,345	7,445,304
Dec. 31, 1939.....	5,029,339	2,867,970	7,897,309
June 30, 1940.....	4,733,899	2,574,111	7,308,010
Dec. 31, 1940.....	5,371,816	2,191,311	7,563,127
June 30, 1941.....	4,808,492	1,478,402	6,286,894
Dec. 31, 1941.....	3,746,104	1,191,369	4,937,473
June 30, 1942.....	4,265,529	1,144,236	5,409,765
Dec. 31, 1942.....	6,235,302	1,457,013	7,720,315
June 30, 1943.....	6,320,910	1,381,228	7,702,138
Dec. 31, 1943.....	5,833,932	1,303,249	7,137,181
June 30, 1944.....	5,335,074	1,334,033	6,669,127
Dec. 31, 1944.....	4,391,558	1,550,498	5,942,056
June 30, 1945.....	4,098,009	1,309,427	5,407,436
Dec. 31, 1945.....	3,453,025	² 1,096,446	4,549,471
June 30, 1946.....	3,635,951	² 852,116	4,488,067
Dec. 31, 1946.....	2,809,283	² 774,264	3,583,547
Aug. 31, 1947.....	3,875,200	² 595,000	4,470,200

¹ Does not include stocks held by nonreporting consumers (say 200,000 to 300,000 tons).

² Producers' stocks estimated on basis of latest available figures (Sept. 30, 1945).

Source: U. S. Bureau of Mines.

Table 5.—Estimated Raw Material Requirements of Steel Industry at Existing Capacity

Raw materials	Net tons
Blast furnace materials:	
Iron ore.....	113,740,000
Limestone.....	25,166,000
Coal.....	91,627,000
Home scrap.....	1,000,000
Purchased scrap.....	13,000,000
(Coke produced from above coal)	59,138,000
Steelmaking materials (metallic content):	
Pig iron.....	58,200,000
Home scrap.....	25,800,000
Purchased scrap.....	¹ 14,500,000
Open hearth ore.....	5,200,000
Scale (iron content).....	350,000
Sinter (iron content).....	1,120,000
Slag (iron content).....	1,000,000

Table 5.—Estimated Raw Material Requirements of Steel Industry at Existing Capacity—Continued

Raw materials	Net tons
Steelmaking limestone fluxes and fluorspar.....	6,898,000
Steelmaking deoxidizers:	
Ferrosilicon.....	800,000
Ferromanganese.....	712,000
Spiegeleisen.....	173,000
Aluminum, metal.....	41,000
Alloying materials: ¹	
Ferrochromium.....	217,000
Ferrotitanium.....	20,100
Ferrotungsten.....	4,810
Ferrovanadium.....	3,290
Ferrochromium.....	600
Ferrophosphorous.....	600
Silicomanganese.....	3,200
Zirconium alloy.....	12,100
Copper, metal.....	75,400
Nickel, metal.....	61,800
Molybdenum, metal.....	9,720
Cobalt, metal.....	700
Finishing and coating materials:	
Palm oil.....	25,500
Pig tin.....	39,000
Sulfuric acid.....	554,000
Zinc.....	310,000

¹ Without allowance for deterioration in quality of scrap.

² Estimated on basis of alloy steel production at 12 percent of total production.

Table 6.—Estimated Loss of Potential Scrap During War Years 1941-45

Item	Net tons	Item	Net tons
Exports of steel plant products.....	31,000,000	Estimated steel in exported pressed, formed and stamped items.....	3,500,000
Exports of fabricated steel.....	800,000	Estimated steel in exported containers.....	9,900,000
Estimated steel in overseas shipments of ordnance projectiles, etc.....	21,700,000	Estimated steel in exported agricultural equipment and parts.....	1,200,000
Estimated steel in overseas shipments of military vehicles.....	6,100,000	Estimated steel in exported miscellaneous and unclassified items.....	4,500,000
Estimated steel in aircraft shipped overseas and not returned.....	2,900,000	Estimated steel shipped to converting and processing industries, later exported.....	11,400,000
Estimated steel in war and merchant ships sunk.....	3,800,000	Estimated steel shipped to wholesalers and distributors, later exported.....	12,200,000
Estimated steel in merchant ships transferred to foreign registry.....	5,700,000		
Estimated steel in exported machinery.....	2,600,000		
Estimated steel in exported railroad cars and equipment.....	2,000,000		
Estimated steel in exported automotive units and parts.....	4,500,000	Total.....	123,800,000

Finished steel exports and fabricated steel exports represent actual tonnages reported in American Iron and Steel Institute statistics. With respect to various items of direct war use of steel, such as in ordnance, projectiles and tanks, aircraft and military vehicles, the assumption was made that 80 percent of this war material was shipped overseas and the bulk of it was not returned to the United States.

The 3,310,000 dead weight tons of warships sunk and 6,277,077 dead weight tons of merchant ships sunk were converted into equivalent steel on the basis of 2.5 dead weight tons per ton of steel required.

The estimated amount of steel contained in machinery exports was based upon a study of actual machinery exports from 1941 to 1945 which indicated that 20 percent of total production was shipped overseas. The steel in exported freight cars was estimated by multiplying number of freight cars exported by an average of 10 tons of steel required per freight car. Steel for other types of railroad cars, locomotives and replacement parts shipped overseas was estimated on the assumption that one-fourth of all steel shipped to manufacturers of those products went into exported goods.

The tonnage in exported automotive units and parts was based upon the actual dollar total of such exports and their relationship to total production of automotive units and parts from 1941 to 1945.

Steel used by the converting and processing industries for shipment overseas was estimated on the basis that 50 percent of such steel found its way overseas. With respect to the pressing, forming and stamping industry, the assumption was made that one-third of the steel received was used for items destined for export.

Estimating eventual export of steel shipments to jobbers, dealers, and distributors, shipments for ultimate distribution to the oil and natural gas industry were entirely disregarded. Of all other steel shipped to distributors, approximately one-third was assumed to go to small manufacturers of materials for shipment overseas.

It was further estimated that 50 percent of the amount of steel which entered the manufacture of containers was later shipped overseas, that 25 percent of the steel in miscellaneous and unclassified items was exported, and that 25 percent of that steel going to manufacturers of agricultural implements and parts was eventually shipped abroad.

Table 7.—Shipments of Steel Products by Market Classifications

[In thousands of net tons]

	Estimate for 1947 1		1946		1941		1940	
	Shipments	Percent of total	Shipments	Percent of total	Shipments	Percent of total	Shipments	Percent of total
Steel for converting and processing into (exclusive auto and aircraft):								
Wires and wire products.....	850	1.4	621	1.3	534	0.9	504	1.1
Bolts, nuts, rivets, and screws.....	1,304	2.1	1,055	2.2	1,168	1.9	708	1.5
Engines (exclusive auto and aircraft).....	756	1.2	1,652	1.3	765	1.2	406	.9
Other steel products and steel castings.....	2,008	3.2	1,465	3.0	1,895	3.0	1,142	2.5
Subtotal.....	4,918	7.9	3,794	7.8	4,342	7.0	2,760	6.0
Jobbers, dealers and distributors:								
Jobbers, oil and gas industry.....	954	1.5	874	1.8	1,018	1.6	654	1.4
All other jobbers, dealers, and distributors.....	9,478	15.2	8,431	17.3	8,149	13.2	6,033	13.2
Subtotal.....	10,432	16.7	9,305	19.1	9,167	14.8	6,687	14.6
Construction, including maintenance and contractors' products.....								
Automotive, including automotive forgings and stampings.....	8,336	13.4	6,387	13.1	8,063	13.0	4,968	10.8
Rail transportation.....	9,134	14.7	6,557	13.4	8,852	14.3	7,324	16.2
Shipbuilding.....	4,938	7.9	3,807	7.8	5,639	9.1	3,777	8.2
Aircraft, including aircraft forgings.....	328	.5	234	.6	2,724	4.4	1,670	3.7
Oil and gas drilling.....	30		28		21		77	2.2
Mining, quarrying, and lumbering.....	800	1.4	316	.6	2,732	2.8	2,007	2.2
Agricultural.....	256		210		219		141	.3
Machinery, industrial equipment, and tools.....	1,220	2.0	1,000	2.1	1,154	1.9	920	2.0
Electrical machinery and equipment.....	3,454	5.2	2,160	5.0	1,562	2.5	1,109	2.4
Appliances, utensils, and cutlery.....	1,400	2.3	1,155	2.4	1,301	2.1	1,777	1.7
Other domestic and commercial equipment.....	1,400	2.3	1,227	2.5	3,732	6.0	2,165	4.7
Containers.....	4,918	2.6	1,398	2.9	3,732	6.0	2,165	4.7
Ordnance and other military.....	30		4,255	8.7	4,489	7.2	2,985	6.5
Export.....	4,154	6.7	3,027	6.2	1,413	2.3	8,009	17.7
Miscellaneous and unclassified.....	4,928	7.9	3,549	7.3	1,407	2.3	2,136	4.7
Total steel products.....	62,344	100.0	48,775	100.0	61,974	100.0	45,851	100.0

¹ Based on preliminary figures for first 6 months.

² Includes pipe lines, now included in construction.

³ Includes pressing, forming and stamping, except automotive.

Source: American Iron and Steel Institute, as reported by steel producing companies. For U. S. Department of Commerce export figures, see table 9.

Table 8.—Shipments of Hot and Colled Rolled Sheets and Strip, by Market Classifications

[In thousands of net tons]

	Estimate for 1947 ¹		1946		1941		1940	
	Shipments	Percent of total	Shipments	Percent of total	Shipments	Percent of total	Shipments	Percent of total
Steel for converting and processing.....	554	3.1	328	2.3	255	1.6	227	1.8
Jobbers, dealers, and distributors.....	1,966	10.8	1,862	13.2	1,979	12.2	1,615	12.9
Construction, including maintenance and contractors' products.....	2,212	12.3	1,745	12.3	1,375	8.5	860	6.9
Automotive, including auto stampings.....	5,690	31.5	3,935	27.8	5,450	33.7	4,702	37.5
Rail transportation.....	418	2.3	308	2.2	492	3.0	307	2.4
Shipbuilding.....	28	.2	25	.2	145	.9	37	.3
Aircraft.....	10	.1	11	.1	31	.2	10	.1
Oil and gas drilling.....	34	.2	12	.1	2	.6	2	.5
Mining, quarrying, and lumbering.....	24	.1	21	.1	17	.1	13	.1
Agricultural.....	474	2.6	368	2.6	333	2.1	228	1.8
Machinery, industrial equipment, and tools, including electrical equipment.....	1,450	8.2	1,173	8.3	888	5.5	638	5.0
Appliances, utensils, and cutlery.....	1,155	6.4	1,044	7.2	830	5.3	569	4.4
Other domestic and commercial equipment.....	953	5.3	847	6.0	2,630	16.3	3,159	24.4
Containers.....	1,350	7.5	1,061	7.7	905	6.2	622	5.0
Ordnance and other military.....	6	.0	46	.3	279	1.7	327	2.6
Export.....	508	2.8	468	3.3	679	4.1	637	5.0
Miscellaneous and unclassified.....	1,252	6.9	927	6.6	546	3.4	739	5.9
Total sheets and strip.....	18,042	100.0	14,140	100.0	16,165	100.00	12,553	100.0

¹ Based on preliminary figures for first 6 months.² Includes pipe lines, now included in construction.³ Includes pressing, forming, and stamping except automotive.

Source: American Iron and Steel Institute, as reported by steel-producing companies. For U. S. Department of Commerce export figures, see table 9.

Table 9.—United States Exports of Steel Products

[In net tons. Compiled from Department of Commerce reports on Foreign Commerce and Navigation of the United States]

Years	Exports	Years	Exports
1947.....	¹ 6,565,000	1941.....	6,403,474
1946.....	4,747,397	1940.....	7,918,344

¹ Estimated for the whole year 1947 on the basis of Department of Commerce figures for the first 8 months

Exhibit 1.—Factors Affecting the Use of Oxygen for Increasing Iron and Steel Production

The major steel companies have been experimenting with the use of oxygen for increasing production rates in the making of open hearth steel, since August 1946. This research and development program has included the following subjects:

1. Oxygen as a combustion aid during scrap melt down.
2. Oxygen as a mean of melting scrap by direct oxidation.
3. Oxygen as a means of Bessemerizing heats containing high hot metal charges.
4. Oxygen for controlling bath temperature.
5. Oxygen for the decarburization of low carbon heats.

Sufficient experience has been gained to indicate that oxygen, when applied to a single furnace unit, will materially increase the production rate. Many hasty conclusions have been drawn from this evidence with regard to the effect of oxygen by itself on an entire plant output or even on the nation's steel making capacity.

From a practical point of view, it has become apparent that increasing the steel melting or decarburizing rates with oxygen is only part of the story. Aside from economic considerations involving comparisons of the cost of oxygen with possible cost savings in steel making, there are limiting factors present in each plant which restrict the immediate application of oxygen. The principal factor is the general inability to handle and to charge scrap at the accelerated rate required for oxygen firing. Major changes in scrap handling facilities involving large capital expenditures will be required.

With regard to the availability of oxygen, it is apparent that for combustion uses oxygen is required in such quantities and at prices which, in effect, constitutes the development and manufacture of a new commodity—large-scale, low-purity oxygen. A simple calculation of the quantity of oxygen required to employ oxygenated combustions for the present steel production indicates a yearly oxygen requirement at three times the present annual capacity of all American oxygen producing plants. While development work in the manufacture of this new commodity is well under way with the first commercial experimental plant starting operation at the Bethlehem Steel Co.'s Johnstown Plant, in December of this year, estimates of the time required to duplicate such facilities are of the order of 18 to 24 months.

It is thus evident that what has been accomplished during the past year in the experimental use of oxygen in steel making has been a determination of, rather than a solution of, the problems involved in this application. Such problems include, questions of materials han-

dling, of oxygen supply, of smoke and fume nuisances, and of the fundamental economics involved. With the exception of the use of oxygen for decarburization in the electric furnace and in the manufacture of such specialty products as very low carbon steels, both of which applications involve relatively low tonnages of steel and oxygen, no production use is presently being made of oxygen. Despite the wide publicity being given the experimental use of oxygen in steel making, it must be borne in mind that a substantial increase in the rate of steel production through the use of oxygen can only be obtained by major alterations to existing furnace plants, and by the construction of oxygen producing facilities both of which projects will require considerable time.

With regard to the use of oxygen in the Bessemer, the cupola and the blast furnace, plant development work is just starting, and no significant data has been gathered which would permit of drawing any conclusions as to the extent of the future application of oxygen in these processes.

During the past year, it has been definitely proven that open hearth production rates can be increased by using oxygen for combustion for decarburization and for the control of the steel making reactions. Sufficient experimental evidence has been accumulated so that forecasts of the effect of oxygen on single furnace unit operations are possible. Such forecasts, with respect to entire plant operations, are only possible in a few isolated instances such as in the case of plants making limited tonnages of very low carbon steels and where open hearth capacity is the limiting factor in restricting output.

To apply any broad generalization that oxygen, per se, would increase steel plant capacity would be to ignore the fact that steel plant capacity is restricted by a number of other factors including scrap and pig iron supply and quality, materials handling facilities, ingot handling equipment and soaking pit capacity. In many instances actual steel melting capacity is not the principal factor limiting the output of a particular plant.

To evaluate the percentage increase on a national basis in steel production, assuming sufficient quantities of oxygen to be available, would require a detailed study of each individual plant in order to determine the exact effect of oxygen on the particular production problem. It will be found that in the majority of instances, substantial tonnage increases will require, considerable rearrangement and addition to existing plant. Moreover, the cumulative effect of increased raw material requirements from a number of plants operating at increased rates of production, may well seriously limit the expected production gains.

GEORGE V. SLOTTMAN,
Air Reduction Company, Inc.

Exhibit 2.—Sponge Iron

In steel manufacture in the United States, and probably in all North America, there is no real metallurgical need for direct reduced iron. Steel was made during the war without needing direct reduced iron, so it is not required now. There is every little valid reason for metallurgical use of direct reduced iron in any country to the best of my knowledge. Thus, this discussion will concern some of

the operating problems involved as a base for some economic conclusions.

The old process of Sweden, Hoganaes, is a modified brick making operation based upon reducing Gallivera ores in clay pots very similar to the making of brick or pottery ware. It has produced many thousands of tons of product, and the product has been made into steel.

There is little use to estimate the cost of production without specific data, but the Swedish product used to sell for twice the value of pig iron or more. The product is still made and is for sale at this time so far as I know. I am sure it could be made in this country if we so desired.

The second process which was used in a real way was the Krupp-Renn. This unit, similar to a cement kiln, was used in Germany and Japan to produce a lumpy sort of iron that could serve as melting stock for steel production.

A third process was and still is used in Sweden to make reduced iron from sinter. This is the Wilberg process, and is a shaft furnace in which the iron ore is reduced but not melted.

In this country many attempts have been made to produce direct reduced iron for sale. The product could be made but the cost of making was high and always the same end was reached. The value of the product was judged by the price of scrap or pig iron, and to date no direct reduced product has been worth as much as hot metal from a blast furnace when used to make steel of the usual types made in volume. Therefore, to be sold, direct reduced iron must be cheaper than molten blast furnace iron. So long as its cost exceeds the cost of making blast furnace iron, a limited use can be expected.

During the war the Cape-Brassert process was worked at the Warren, Ohio, plant of Republic Steel Corporation. This process had the advantage that it used the hydrogen from coke oven gas to reduce the iron ore. The residual gas, higher in B.t.u., then went on to the steel plant for metallurgical use. No additional coal mines or coke ovens were required. If ore pure enough for the purpose is available and does not have to be diverted from the presently used supply an increase of iron can be expected. Such a process or a modification attached to existing coke plants would aid in a minimum of time.

The Cape-Brassert plant did not have a press for making a dense briquette and much of the product was granular and in a form not physically desirable for melting stock. It was not dense enough for reboiling use, the original reason for production, so only token amounts were used. There was nothing unusual about the results. The steel and the operation of the furnace were normal so a briquette press and a price were all that really stood in the way of use.

The Bureau of Mines' report RI 4096 confirms these observations in the main. Direct reduced iron was made; steel was made; the results add little to the record of the Swedish use of a similar product. The product can be used in any steel making process which uses solid metal to replace scrap or iron. The analysis of any given direct reduced iron would have to be considered in making up a charge.

The analysis of direct reduced product is largely controlled by the analysis of the ore reduced. It may be controlled by ore preparation,

but not by furnace operation as in a blast furnace where the non-metallics may be removed and within limits silicon added. The higher grades of direct reduced iron, like Höganacs, are very pure. The usual iron ore is not pure enough to duplicate such product but will serve to make usable iron for basic open hearth or basic electric steel making.

If direct reduced iron is to be made for increase of steel production, it should be made from raw materials not now being processed. With the present shortage of ore, coke, and transportation, no increase can be based on diversion of the presently used material. If, for example, southern Appalachian magnetite ore could be reduced with coal now going to export or with a similar combination where ore not now used could meet fuel not now being used in this country, an increase of tonnage could be expected.

Such an operation would require subsidy, for no present producer should expect to make direct reduced iron for less cost than our average blast furnace iron, and to penalize any single corporation with carrying this loss would not get the iron made.

The operation, if carried out, should be placed where it has the best possible chance to make cost, because the salvage value of plants built in the United States to direct reduce iron has been very low. Therefore, the primary capital cost better be amortized in the first year's operation so that there will be no misconceptions about the cost of the product.

EARLE C. SMITH,
Chief Metallurgist, Republic Steel Corporation.

Report on Coal

I. Resources of the Coal Industry

A. Economic Resources

The principal resources of the coal industry are its economic reserves: i. e., its raw material reserves, its capacity to produce, and its ability to distribute. The latter two must be viewed in relation to the demand from consumers both internal and abroad.

1. *Reserves.*—The tonnage of United States coal likely to be required to meet any foreseeable overseas demand will not adversely affect our vast resources. Coal reserves in the United States (2,556 billion net tons¹) will last about 2,000 years at current rate of consumption and with present mining methods. While no high degree of accuracy can be argued for this figure, it does serve to indicate the magnitude of our resources. Total reserves include all grades from anthracite to lignite, and much coal that is not now economically feasible to mine. The quantities of coal likely to be required under an aid program, however, will not materially hasten the day when American energy will come from lower grade coal. Meanwhile, continued progress in mining methods, preparation, and combustion increases the worth of our lower grade coal and widens their range of use.

Particular concern has at times been expressed concerning our reserves of anthracite and metallurgical, or by-product, coal. Anthracite is not a large factor in a foreign aid program. It will be required only in relatively small quantities.

Unfortunately, quantitative information on reserve tonnages of metallurgical coals is lacking, principally because the definition of what constitutes metallurgical coal is constantly changing. Improved coal preparation at the mines and advance in metallurgical practices have made available seams of coal which had previously been deemed unfit for this purpose. It is reasonable to assume that continued progress in steel technology and of coal preparation will reduce the limitations on certain coals for the steel and other metal industries.

Seams of some of our best grades of by-product coals have already been exhausted, and others are being depleted rapidly. The conservation of our metallurgical coals is a domestic problem not directly connected to a foreign aid program. An export program will not add to this problem by hastening the depletion of our seams of top quality metallurgical coal. These are mined and consumed at a rate determined by ability of the mines to produce and railroads to transport. Metallurgical requirements over this amount are filled by lower grade coals; should demand by metallurgical consumers fall below output, by-product coal is sold to another consumer, displacing a lower grade coal. Because of the short term nature of the aid program in rela-

¹ Net ton, 2,000 pounds; gross ton, 2,240 pounds; metric ton, 2,204 pounds.

tion to investment required, and availability of metallurgical coal seams in Europe, it is unlikely that the export program will, in itself, influence the construction of new mines to increase output of high grade metallurgical coal.

There are sufficient reserves of coal of the type and quality used by railroads, public utilities, general industry, and householders. A foreign aid program of the nature contemplated will not significantly deplete these reserves. Coal constitutes some 98.8 percent of our total estimated fuel reserves.

Fuel Reserves and Their Estimated Life ¹

	Tons ^{2 3}	Estimated percent of total American reserves	Years of reserve life based on current output ⁴
Anthracite.....	15	0.6	165.0
Bituminous, low volatile.....	56	2.2	317.0
Bituminous, high volatile.....	1,403	54.2	2,024.0
Subbituminous.....	598	23.1	-----
Lignite.....	484	18.7	-----
Total.....	2,556	98.8	(4)
Petroleum.....	-----	.2	12.3
Oil from oil shale.....	-----	.8	54.1
Natural gas.....	-----	.2	34.0
Total.....	-----	100.0	(4)

¹ U. S. Bureau of Mines: reserves as of January 1, 1946.

² Based on conversion of all fuels to a bituminous coal equivalent of 13,000 B.t.u. per pound.

³ In billions of net tons.

⁴ Years run concurrently.

The above estimate of reserves is sometimes questioned by members of the coal industry. It is contended that these figures include much coal of low quality and much coal that will never be mined. Even if two-thirds of these estimated reserves of coal are eliminated as being of uneconomical value by present standards, our resources are still sufficient to assure ample supplies for many centuries.

2. *Productive Capacity*.—Physical productive capacity of the United States coal industry will not, in itself, be a limiting factor in the Marshall Program, because gross potential output is in excess of the capacity of certain other factors, particularly transportation and handling facilities, which are essential to the flow of coal from mine to consumer. The capacity of these other facilities will have been reached prior to obtaining maximum output from the mines. The American coal industry has physical facilities capable of producing beyond the domestic market's ability to consume (the term "domestic market" includes the Canadian market for United States coals). Output capacity is still geared to war-time levels. Mining facilities which produced 620 million net tons of bituminous and 64 million net tons of anthracite in 1944 are still intact, augmented by an increase in the labor force. Production of bituminous coal at present rates is of the order of 600 million net tons annually. Anthracite output in the calendar year 1947 is expected to be 57 million net tons.

Total potential capacity for both anthracite and bituminous coal output is probably in the neighborhood of 700 million net tons annually.

The existence of unutilized capacity in existing mines is a perennial feature of the coal industry and is, in fact, an economic and technologi-

cal necessity. Coal demands ordinarily are seasonal. Since coal cannot economically be stored in large tonnages, existing mines must be able to produce, at peak season demands. Capacity must, therefore, be maintained in excess of total demands.

In total tonnage, the coal industry is capable of meeting both domestic and foreign demands anticipated under the Marshall program. Within that total, certain coals may at times be in short supply. In recent months, as during the war, there has been a tight market for the best grades of coal notwithstanding total high output. Because of manpower shortages and unavailability of equipment, expansion of national war-time output was achieved principally by increasing productivity of existing mines operating under favorable conditions. The quality coals of the United States are produced mainly in areas where mining conditions limit the extent to which productivity can be increased. Therefore, during the war there was little expansion of production of quality coal. The war effort was powered by a higher proportion of generally lower grade coal than had heretofore been used. This was an expediency and does not reflect a depletion of the reserves of this grade coal, which are still adequate. Demand for quality coal has been strong recently because of the fairly high level of domestic industrial activity and selective buying by exporters. Coal transport and handling costs constitute so great a proportion of total outlay exporters seek to obtain top quality fuels to secure the most units of heat per dollar. Continuing availability of manpower and equipment will make it possible for quality coal producers to add to producing facilities and thus increase the supply of this type of coal on the market.

In general, export of coal under a foreign aid program will hold production of coal at current high levels. As foreign demand tapers, output can gradually be reduced to conform with the domestic demands.

3. *Distribution and Consumption.*—Nearly all coal mined moves away from the mine to be consumed. Railroads haul the bulk of this tonnage. They load 85 percent of the bituminous and 84 percent of the anthracite coal produced. The balance moves by water or truck, or is consumed at the mine.

Currently the supply of open-top cars made available to the mines by railroads has not been sufficient to permit working the mines on a full time basis. Lack of carrier facilities is limiting the number of loading days. On one large road, for instance, loading time averaged only 2.8 days per week for the July-August period. The car shortage has existed generally in the Northern Appalachian Field all through 1947; it is now being felt in the Eastern Interior Province of the mid-west; and it is expected that it will strike the Southern Appalachian Field during the period the lakes are frozen and coal must be delivered to North Central consumers by all rail haul. Should the car shortage continue, tonnages of coal available for export will be restricted and shipments will probably be erratic because domestic stock-piles will remain low. Should the car shortage grow worse, it will be impossible to maintain a coal export program at sustained high monthly tonnages.

The possibility of increasing in the immediate future the number of hoppers and gondolas of the railroads is not good. Present monthly production of open-top cars (some 2,000) barely exceeds the number of

retirements per month (1,000 to 2,000). Commencing October, 1947, it is anticipated production of open-tops will be increased and that output shortly will be 5,000 per month. Even at this rate, if no other measures are taken, a car shortage in coal distribution will exist throughout 1948 and possibly extend into early 1949.

However, to a certain extent the coal car shortage is artificial. Needs of coal cars are estimated to be an additional 50,000 new cars, roughly a little more than a 1-day supply to the mines. Should it be possible to reduce average turnaround time, which on one road for example was 11.5 days during wartime and is over 14 days now, by just one day, the car shortage will to a great extent disappear, and new cars could make up the balance needed. Whether turnaround can be reduced is a problem for railroad management, shippers, and consignees.

In addition, it is considered that the following actions if taken would materially benefit the coal car supply situation.

(1) Repair some of the worn equipment now being retired.
 (2) Give priority to coal movement over less essential traffic using open-top cars.

(3) Revise method used by railroads in allocating cars. Allocation should be made on the basis of sustained ability to produce.

If no action is taken, the availability of coal cars will not be sufficient to permit the United States to export large tonnages of coal.

However, if this problem is given the attention it merits and suitable action is taken, sufficient cars should be available to export the tonnages required.

United States bituminous coal consumption in the calendar year 1946 was 500 million net tons. Consumers were:

	<i>Million net tons</i>
Railroads.....	114.2
Electric power utilities.....	68.7
Coke oven and steel mills.....	91.5
General industrial.....	115.8
Retail trade.....	110.0
Total United States consumption.....	500.2

Anthracite consumption in the United States was some 50 million tons in 1946.

Exports to Canada in 1946 were 22 million net tons of bituminous coal and 4.5 million tons of anthracite.

Based on current levels of industrial activity, United States requirements for 1947 are 530 to 535 million net tons of bituminous and 50 million tons of anthracite. Canadian requirements of United States coal will probably be the same as in 1946.

Subsequent to 1947, and through 1952, total requirements by United States and Canada of United States coal will probably not exceed 610 million net tons of all types. United States and Canada requirements (during the period of the Marshall Program) are, therefore, substantially less than total productive capabilities of the American coal industry. It is a reasonable assumption that there will be available for foreign shipment some 50 to 55 million tons annually. This potential export tonnage is dependent, of course, on the transport facilities being available at all times. Should these be inadequate even for short periods, tonnage of coal for export will be reduced.

Coal storage facilities of producers, distributors, and consumers constitute an economic resource of the industry that may be of aid in the orderly distributing and shipping of coal.

Storage facilities of producers and distributors are small and scattered. The Solid Fuels Administration for War in 1942 undertook to assemble information on stockpiling ability at bituminous mines. They determined that some 15 million net tons could be stored at the mines, but this tonnage was more or less evenly scattered over all 23 producing districts and that average handling cost per ton (1942 basis) was 36 cents.

Taking into account distance to market, number and kinds of consumers, and volume of tonnage to be delivered, something over a week's output is ordinarily in transit during periods of continuous operation.

Largest tonnage of stocks held in retail yards was 15 million tons of bituminous coal. In November of 1942 industrial stocks reached their highest point, totalling almost 80 million tons. Current industrial stocks are about 50 million tons. Electric utilities, as a whole, keep the largest supplies on hand of any consumer group. They generally have from 2 to 3 month's supply. Other consumer groups seldom have over a month's supply on hand.

With the present favorable internal demand for coal in conjunction with a foreign aid program it is apparent that stocks should most certainly not be reduced but rather should be increased. Adequate stocks are important from the point of view of an orderly industrial economy, particularly when a large volume of uninterrupted export of coal is contemplated.

4. *Exports and Imports.*—Imports of coal into the United States are small, being almost entirely local shipments to American consumers from certain nearby Canadian fields in the Province of Alberta.

Ordinarily, the United States exports but a small proportion of its coal production. For example, in 1940 only 0.5 percent of the total output of anthracite and bituminous coal was exported to countries other than Canada.

Since the end of World War II, Western European countries have been acquiring coal from the United States. Exports began to rise in August 1945 and have continued. In 1946 the United States exported 21.6 million net tons of bituminous coal and 2.2 million net tons of anthracite. Of the total of 23.8 million, 18 million tons went to Europe.

For the year 1947, total exports overseas will probably reach 48.3 million net tons. Bituminous coal will constitute 42 million net tons of this amount.

Theoretical port capacity for loading coal for overseas shipment has been estimated to be 9.3 million net tons (8.3 million gross tons) per month. Because of various delays, break-downs and methods of operations, the actual useful capacity is somewhere near 5,685,120 net tons (5,076,000 gross tons) per month. This is equivalent to about 68 million net tons (61 million gross tons) per year.

The problem of ocean shipment of coal is considered in the report on transportation below, and certain recommendations, particularly on the matter of control and coordination required to maintain a high level of export, are there presented.

5. *Cost and Price.*—Mining costs will not be affected to any appreciable extent by virtue of the export of coal alone. Should mining costs be increased by other factors, they will affect the Marshall Program in that higher producing costs will raise the cost of the program.

It is impossible to gauge the amount of such higher costs because they are contingent principally upon such imponderables as future wage agreements and supply costs.

The current strong demand for quality coal, created by the general high level of industrial activity and selective buying by exporters, has resulted in boosting the prices of some high grade fuels and the payment of premiums in some instances by foreign buyers. In general, a foreign aid program will contribute to the maintenance of the seller's market in the coal industry because transportation at times will not be adequate to supply all demands. Tonnage exported during the first half of 1947 has served to bolster the prices of certain grades of coal, particularly of eastern origin, and the continuance of large tonnages for export may establish prices at somewhat higher levels than would otherwise exist.

It is difficult, if not impossible, within the framework of the free market that exists in the coal industry, to state precisely the effect in dollars and cents of the present or prospective future export of coal on the price structure. This effect will not be felt on all types and sizes of coal to the same degree, nor will it influence all domestic markets. Most domestic coal sales are on a contract basis. On such sales the export program will have little or no bearing. Spot market transactions through the period of greatest foreign demand, 1948, may be higher by the order of \$1.00 per ton in some eastern markets. The net effect of such varying increases in coal prices on the domestic economy as a whole is not subject to precise statistical analysis. It is thought by some in the industry that the foreign export market has had no significant effect on the general level of domestic coal prices, while others are of the opinion that such prices are from 25 to 50 cents per ton higher than they would be were there no large tonnages of coal being exported. It is anticipated that this future export market during the years 1948-51 will not materially alter the present market conditions.

B. Social Resources

In addition to its economic resources, the coal industry has reserves of social significance, consisting of the manpower supply of its labor force and the skills of its management and technicians, coupled with the contribution of those who supply to the industry the tools and equipment with which it works and the carriers on which its product moves.

The present labor force of the bituminous coal industry is made up of some 400,000 miners, or 7,000 more than were employed in 1944, when 620 million tons were produced. The anthracite industry employs a total of 75,000 miners.

The effect of the July 1947 labor agreement in reducing effective working hours will in general reduce the output per man per day, just

as it did in 1934 when work hours were reduced. In part, this drop will be offset by increased investment in mechanical mining which raises productivity. The addition in the labor force of 7,000 bituminous miners over 1944 will serve to maintain total productive ability near the level of that year despite present reduced work hours. Again the controlling factor may be transportation rather than manpower.

High wages and increased activity to deal with the problems of safety and miners' welfare will maintain a mine labor force at or beyond its present level. Despite current high level of industrial activity, the coal mines have not experienced any loss of its working force to other industries during the past three years.

The potential tonnages of export coal are predicated on the mines working with regularity (and are qualified by the availability of adequate transportation facilities). Should there be extended work stoppages, then the flow of coal would be interrupted, domestic stocks will shrink and little or no coal will be exported. Before a resumption of full export tonnage is again possible, domestic stocks must be partially or wholly replaced. Continuity of operation of the mines is a prerequisite to attaining a sustained high level of export tonnages.

II. European Coal Requirements

The CEEC summarized coal requirements of the sixteen nations and Western Germany as follows:

CEEC Estimate

[In millions of metric tons]

	1948	1949	1950	1951
Production, coal and lignite (excluding dependent overseas territories of participating nations).....	477	512	552	583
Consumption, coal and lignite (including bunkers, exports to nonparticipants, and deficits of overseas dependents).....	535	562	594	620
Imports required—Total.....	58	50	42	37
Imports from Poland.....	16	24	27	30
Imports from others, except United States.....	1	1	1	1
Deficit to be supplied by United States.....	41	25	14	6

CEEC stated that after 1951 the participating nations should be in a position, with the aid of imports from Poland but without further substantial American imports, to meet their requirements.

The United States is able to export the tonnages indicated. However, actual demands of Western Europe may be in excess of the amounts determined by CEEC. This is particularly true for years beyond 1948. CEEC estimates of their coal deficit are based on the assumption that substantial increases in the producing ability of both Western Europe and Poland will make possible the fulfillment of the bulk of Western European needs by internal production and imports from Poland. The following table compares the CEEC estimate of production in 1948 and 1951 to actual 1938 output and 1947 estimated output based on tonnages to date.

Coal and Lignite Production, Participating Countries, Their Dependent Overseas Territories, Western Germany, and Poland

[In millions of metric tons]

	Actual 1938	Estimated 1947	CEEC estimate	
			1948	1951
United Kingdom.....	231	199	214	249
Western Germany.....				
Bizone.....	206	133	149	193
Saar.....	14	10	14	17
France.....	48	50	51	63
Belgium.....	30	24	26	31
Netherlands.....	13	10	11	12
Others.....	10	13	12	16
Total.....	552	439	477	583
Poland (including Silesia).....	65	50	68	83
Gross.....	617	495	545	666

Should optimum conditions prevail in each of the countries of Western Europe during the 4-year period, 1948 through 1951, total annual output conceivably might reach the tonnages stated. It is decidedly optimistic to believe that economic and engineering factors in the mining and distributing of coal in all of these countries will be favorable all the time. There is even question whether under the best of conditions Western Europe can increase coal and lignite production from 495 million metric tons in 1947 to 552 by 1950 and to 583 million metric tons by 1951. Failure of the nations of Western Europe to increase output by the tonnages indicated would mean that exports from the United States must be revised upwards. Estimate of hard coal production in Western Europe by CEEC is 39 million metric tons more than that estimated by C. W. Jeffers of the American Mission for Economic Affairs, American Embassy, London, and 29 million metric tons more than that estimated by the European Coal Organization, London, in its July 5, 1947 report.

Members of the CEEC have also listed certain tonnages to be imported from Poland. These tonnages are not necessarily the amounts which will be imported; they are tonnages which CEEC would like to have from Poland. As a result of the adjustment of frontiers after the defeat of Germany, Poland acquired the coalfields of Upper and Lower Silesia. With these resources added to its former reserves Poland has become one of the foremost coal producers in Europe. However, it is not certain that coal required by Western Europe from Polish sources will be available in the amounts desired. Before exporting to CEEC nations, Poland must be able to produce tonnages in excess of its own needs plus commitments made in bilateral agreements with other nations, some of whom are not participants of the CEEC. Internal needs of Poland amount to some 30 million metric tons in 1947, and are expected to increase to 45 million metric tons prior to 1951. Commitments to nations outside the CEEC are believed to be 8 million metric tons. Domestic needs plus commitments theretofore will total 53 million metric tons by 1951. Any increase in commitments will, of course, further reduce the availability of Polish coal to Western Europe. To export 27 million metric tons in 1950 and 30 million metric tons in 1951 to Western European nations, Poland will

have to produce at least 75 and 83 million metric tons in 1950 and 1951, respectively.

Production of Poland in 1947 is expected to be 56 to 58 million metric tons. With equipment now being delivered under the Export-Import Bank loans, Poland can possibly raise annual output to near 70 million metric tons. How long production can be maintained at this level without additional equipment for replacement, especially generating equipment, is conjectural. Additional mining equipment and power generators are needed to boost output to the 83 million metric ton mark. Should the Polish government for any reason broaden its bilateral agreements to supply coal to countries outside the CEEC, production will have to be over 83 million metric tons annually to provide Western Europe with 30 million metric tons of Polish coal in 1951.

If coal consumption of Western Europe is to be at the rate indicated by CEEC, exports of coal from the United States will have to be greater than the tonnages listed in the CEEC report of September 22, 1947. On the basis of the industrial program planned, demands of Western Europe for American coal will be at least 45 million metric tons in 1948, will not be below 35 million in 1949, will be 25 million in 1950, and in 1951 will still be at least 20 million metric tons. The four-year total will be near 125 million metric tons. This is within the ability of United States to export.

Based on current and anticipated prices f. o. b. mines, freight rates, and handling charges, it is estimated that coal exported under the Marshall Program will cost \$10 per gross ton, f. o. b. United States ports. Total cost of the coal export program will therefore be 1.25 billion dollars.

APPENDIX A

Comments on "Self Help" Through Increased European Coal Production

Increased production from the coal mines in Northwestern Europe and Great Britain is one of the principal forward steps that must be achieved in the economic rehabilitation of the Marshall Plan area. Production from the Ruhr-Aachen area is currently running at about 52-57 percent of 1938; Belgium about 75-80 percent; the Netherlands 75 percent, Great Britain, formerly the greatest coal exporting nation in the world, is unable to meet its own internal requirements, let alone export to the coal deficient countries of Northwestern Europe and to its other pre-war markets. The present and foreseeable future potential demand for coal in Northwestern Europe and Great Britain is probably greater than the total pre-war production.

Should the production of coal in Northwestern Europe fail to increase during the period when economic assistance from the United States may be called upon, then it is quite possible that such assistance will not have served any purpose other than postponing the condition of economic chaos now apparently confronting Northwestern Europe.

While it is not within the scope of the work of this committee to go into the detailed statistics and try and juggle with the Northwestern European coal budget (as this has been done by many other agencies), it is deemed appropriate to point out again the vital necessity of increasing coal production in Northwestern Europe—particularly in Western Germany and Great Britain, which are the two principal sources of coal in the area.

It is similarly neither within the scope of the work, nor the competence, of this Committee to make recommendations as to how this increase should be achieved. This vast and complicated problem places upon the many agencies, whether they be governmental, private enterprises, or military (in the case of Germany), engaged in its solution, a great responsibility. It should engage the minds and will of the best men that industry and government can produce.

APPENDIX B

Importance of Coal Imports to Western Europe

The total deficiency of coal in Western Europe has been variously estimated to be from 75 to 145 million tons over the next 4 years. This simple quantitative result of comparing requirements with estimated production fails, by itself, to convey the essential character of European need for American coal. The importance of coal to the industrial life of this nation has on occasion been forcibly demonstrated. Yet coal is an even more essential item in industry, transport, power supply, and the homes of Western Europe, where large supplies of natural gas, petroleum, hydroelectric energy, and wood are not available.

Immense coal deposits in Western Europe made it one of the great workshops of the world. With products of their mills and factories the people of Western Europe secured raw materials and food. In this manner a cycle of trade was established which had coal as its basis. Within the area, certain nations more richly endowed with coal reserves and manpower, such as England and Germany, mined more than their own needs, and thus were able to supply such coal producers as France, Belgium, the Netherlands, and Italy, whose internal output failed to meet what they consumed. Norway, Sweden, Denmark, Switzerland, Austria, and Czechoslovakia drew coal from Britain and Germany and were dependent for their coal requirements on imports. As a whole, Western Europe produced enough coal to meet its needs and had some left to ship elsewhere.

The war disrupted this pattern of living. The destruction of plants, equipment, and machinery, the loss and dispersal of workers, shortages of food, shelter, clothing, the impact of war on the minds of those who have endured it and remain in the chaos of its aftermath have reduced the ability of Western Europe to produce. Goods and materials and equipment which used to be exported are no longer produced in sufficient quantity to fill even urgent needs of the population within the area. Formerly a surplus producer of coal, Western Europe now does not mine enough coal to meet its own requirements. Some fertilizer processing plants remain idle for want of coal, and the lack of fertilizer reduces further the quantity of food available to miners whose efficiency has already been impaired by an inadequate diet. Equipment shortages retard mine output, but there is insufficient coal for the blast furnaces which produce the steel for mine machinery, transportation equipment and other industrial requirements. These are instances of the all-too-general prevailing condition.

The concentration of population and mean fertility of soil make Western Europe one of the most highly food deficient areas of the world. It is impossible for the population of the area to subsist on an agricultural economy. The economic life of Western Europe is

dependent on the trade of those materials which used to be produced there, and which are now not even adequate to fill internal want. The revival of the ability of Western Europe to produce is the only way to restore its economic livelihood. Reserves of coal in Britain and on the continent are available to maintain again a high degree of industrial activity, but coal output is not great enough to revive it. The restoration of Western Europe is largely dependent on the importation of coal.

Report on Coal-Mining Machinery and Equipment

In reviewing the coal-mining machinery and equipment requirements of the sixteen participating countries and Western Germany, the Committee found that the CEEC report contains only broad requirements stated in terms of dollar values. However, subsequently a more detailed report was received from the European Coal Organization (ECO) which contains revised information on the requirements of coal mining machinery and equipment for Belgium, France, Netherlands, and the United Kingdom and Western Germany, including the Saar and British and American zones. These countries require approximately 95 percent of the total needs for coal mining equipment in the sixteen participating countries and Western Germany, and they are the chief producers of coal in the European countries under consideration.

From the ECO report, the Committee determined that during the years 1948-51 inclusive, the sixteen participating countries and Western Germany plan to produce approximately 97 percent of their total mining machinery and equipment requirements. Special equipment not manufactured in Europe, representing 3 percent of the total, will be required from the United States. Dollar requirements for mining machinery in the ECO and CEEC reports are 118.5 and 220 million dollars respectively. The ECO figure does not include any requirements for the Bizonal area of Germany for mining equipment and machinery from the United States, whereas the CEEC report indicates the Bizone of Germany requires 20 million dollars of equipment produced in the United States. The Committee feels the CEEC appraisal of Bizonal area requirements is reasonable and necessary in order to prevent the possibility of a decline in German coal production due to lack of replacements for existing worn and inefficient equipment. Thus, the total dollar requirement for machinery from the United States is about 139 million dollars. This is the sum of the requirement stated by ECO (118.5 million dollars) and the CEEC requirement for Western Germany (20 million dollars). This figure is approximately 4 percent of the overall mining machinery needs of the participating countries.

Following is a summary of the total requirements, production, imports, and exports of the mining machinery and equipment required, as consolidated from the CEEC report. The total export requirement from the United States in the period 1948-51 as expressed in the ECO report is also indicated.

Coal Mining Equipment Requirements, Production, Imports, and Exports of Participating Countries and Western Germany

[In millions of United States dollars]

	1948	1949	1950	1951	Total	Percent
Total requirements.....	890.0	889.8	878.8	904.8	3,563.4	100
Total production.....	709.2	740.4	741.1	771.2	2,961.9	83
Total imports from 16 participating countries and western Germany.....	106.9	95.2	92.3	93.4	386.9	11
Total imports from the United States.....	80.1	54.3	45.4	40.2	220	6
Total exports from 16 participating countries and western Germany.....	35.0	37.3	38.4	38.4	149.10	-----
Total imports from United States (ECO report).....	-----	-----	-----	-----	118.5	3

Both the CEEC and ECO reports indicate a considerable expansion in the mechanization of European mines over the 4-year period. Mechanization at present is limited largely to coal cutting and conveying machinery. Coal loading machines which are widely used in the United States are not particularly adaptable for loading at the coal face in European mines owing to the geologic structure of the coal deposits. Furthermore, high-capacity coal loading machinery requires sufficient underground haulage capacity which at present is inadequate in most European mines. Large-scale expansion of haulage facilities could not be accomplished without considerable time-consuming development of old underground workings. However, despite these impediments to the successful and rapid mechanization of European coal mines, there is every reason to believe that the use of mechanical loaders and associated equipment in opening new coal pits, and in future development work in existing operations, will permit diversion of labor to the coal face and thus aid in increasing production.

The method of calculation used by CEEC in determining the European production program of mining machinery and equipment raises some questions. The program was stated in dollar value, and it was compiled by adding up dollar totals submitted by each of the 16 participating countries and Western Germany. The country totals were in turn calculated on a basis of local prices and exchange rates. These rates evidently varied so widely that no realistic ratios or relationships can be calculated.

The above table indicated that the CEEC countries intend to import the greatest quantities of equipment and machinery initially in 1948 with diminishing tonnages through 1951. In the opinion of the Committee this may be unwise because the coordination and use of the equipment requires time for technical "know how" to be absorbed and for working sites to be developed. The Committee believes that 1948 imports of United States machinery and equipment into Europe should be somewhat below the stated requirement, and that imports in later years should be correspondingly higher.

The assumption in the CEEC and ECO reports that sufficient raw materials will be available for the equipment manufacturing program within participating countries is too optimistic in the opinion of the Committee. Western Germany, which is scheduled to produce approximately 38 percent of the mining machinery requirements for the period 1948-51, and export a substantial proportion of this proposed output to other European countries, is currently unable to supply more

than 60 percent of the steel required to produce such equipment for Western Germany alone. It seems unlikely, therefore, that equipment production goals will be reached. Thus the CEEC and ECO estimates of \$220 and \$118.5 millions, respectively, for mining machinery and equipment required from the United States are too low. Germany must therefore, be supplied with sufficient raw materials to enable the mining equipment industry to more fully satisfy internal and other European country demands.

In order that a definitive judgment can be reached concerning the ability of United States manufacturers to supply CEEC countries with the necessary types of equipment, and in order to facilitate the distribution of such equipment which may be presently available, more complete data are needed on the following:

a. The types, sizes, and quantities of coal mining machinery, equipment, and supplies that are required.

b. The coal fields in the respective countries in which the equipment will be used.

c. Estimates of anticipated increases in coal production in these fields.

Certain types of mining machinery and equipment require long periods of time for manufacture, and orders must be placed considerably in advance of anticipated installations at the mines. It is doubtful, therefore, if delivery of many of the large items of equipment indicated in the ECO and CEEC reports can be delivered within the 4-year period of the recovery program. Fortunately orders for much of the United Kingdom's portion of the \$118.5 millions of equipment, as stated in the ECO report, and which is largely strip mining machinery, have already been placed with United States manufacturers.

Current United States output of mining machinery is limited by shortages of steel, and other materials and components. On many items heavy domestic demand exceeds supply. Although some machinery is becoming more readily available, such items as steel, rubber conveyor belting, bearings, and electrical motors and control equipment remain tight. The large domestic requirements reflect in part the wartime accrual of replacements, and the desire of operators to modernize production facilities. Increasing exports of equipment means, therefore, spreading the large backlog of domestic demands over a longer period of time.

The vital need for mining equipment and supplies to maintain present European coal production and sustain the increased output planned cannot be overlooked, however. It is, therefore, recommended that European requirements for mining machinery, equipment and supplies be met to the maximum extent possible without jeopardizing the productivity and output of the domestic coal industry. Emphasis could well be placed on the export of materials for fabrication into mining machinery and equipment within the sixteen participating countries and Western Germany. It is apparent that before increased production of machinery can be accomplished in Western Germany today, in 1948 or any future year, sufficient raw materials in certain categories must be imported from the United States. If materials are not available to meet European production goals for mining machinery and equipment, the United States will be called on to export larger quantities of finished items.

Total Consumption Requirements of Coal-Mining Equipment 1948-51 ^a

[In millions of United States dollars]

Country	1948	1949	1950	1951	Total
1. Participating countries:					
Austria.....	5.10	0.73	0.74	0.07	6.64
Belgium.....	36.70	36.10	35.50	34.00	142.30
France.....	150.50	160.70	170.40	174.30	655.90
Greece.....	7.00	4.00	4.00	nil	15.00
Ireland.....	.11	.07	.10	.04	.32
Italy.....	15.06	20.08	10.04	5.02	50.20
Netherlands.....	21.35	18.05	18.55	30.55	88.50
Norway.....	1.55	.85	.85	.85	4.10
Portugal.....	2.80	2.80	2.80	2.80	11.20
Turkey.....	33.90	32.91	33.36	33.00	133.17
United Kingdom.....	235.00	260.00	270.00	277.00	1,042.00
Subtotal.....	509.07	536.29	546.34	557.63	2,149.33
2. Western Germany:					
Bi-Zone.....	302.40	263.20	241.60	241.60	1,048.80
French Zone.....	78.50	90.30	90.90	105.60	365.30
Subtotal.....	380.90	353.50	332.50	347.20	1,414.10
Grand total.....	889.97	889.79	878.84	904.83	3,563.43

^a Excluding structural steel and mining timber of all kinds.

Total Production of Coal Mining Equipment ¹ 1948-51

[In millions of United States dollars]

Country	1948	1949	1950	1951	Total
1. Participating countries:					
Austria.....	2.90	0.40	0.38	0.02	3.70
Belgium.....	27.20	26.60	25.00	24.00	102.80
France.....	125.00	136.00	149.00	155.70	565.70
Greece.....	nil	nil	nil	nil	nil
Ireland.....	nil	nil	nil	nil	nil
Italy.....	13.38	17.83	8.92	4.46	44.59
Netherlands.....	14.00	11.40	12.60	21.25	59.25
Norway.....	.60	nil	nil	nil	.60
Portugal.....	nil	nil	nil	nil	nil
Switzerland.....	nil	nil	nil	nil	nil
Turkey.....	13.60	13.45	13.45	13.70	54.20
United Kingdom.....	194.00	230.00	254.00	268.00	946.00
Subtotal.....	390.68	435.68	463.35	487.13	1,776.84
2. Western Germany:					
Bi-Zone.....	279.70	256.70	234.70	234.70	1,005.80
French Zone.....	38.77	48.03	43.08	49.35	179.23
Subtotal.....	318.47	304.73	277.78	284.05	1,185.03
Grand total.....	709.15	740.41	741.13	771.18	2,961.87

¹ Excluding structural steel and mining timber of all kinds.

Report on Electric Plant

Output of electrical generating, transmission, and distribution equipment in this country is far above the prewar level. Generating equipment output apparently is close to capacity but, with additional supplies of silicon steel, output of transformers and related equipment could be increased substantially.

Industry opinion is that it will take years to catch up with domestic demand. Even with some further increase in output of equipment, it is apparent that any large increase in exports to meet European requirements would have to be at the expense of domestic customers. The effect would be to postpone an expansion of electrical power capacity in this country with the possibility of temporary shortages of power in some areas.

Exports historically have been about 5 to 6 percent of output. Before the war Europe was virtually self-sufficient and competed with United States producers for markets elsewhere. Exports to Europe are still small relative to domestic and other markets.

European electric power requirements for 1951, as set forth in the CEEC report, are roughly 50 percent above the restricted consumption in 1947 and almost double the utilization in 1938. This growth in power consumption would average 5 percent per year over the whole 13-year period, which is not an unreasonable rate. In contrast, our own power consumption is already much more than double the 1938 level. The rate of increase projected for the next 4 years does raise serious doubts, however, as to whether there will be sufficient expansion in the power consuming industries to use all of this energy effectively.

There is no question that the viability and well-being of these countries do call for a major increase in power consumption. Increased industrial use of electricity is necessary to keep up with technological developments and to at least maintain their competitive position in world markets. Nevertheless it can be argued that the European nations could fall somewhat short of the stated requirement without necessarily endangering their broad objective.

The war halted much of the normal growth in European electric power capacity as well as causing damage to some installations. Total generating-plant capacity of the participating countries and Western Germany in 1946, including those who were not belligerents, was only 8 percent above 1938. This shortage of capacity has required a number of emergency measures including the actual rationing of electricity.

The expansion of generating capacity, as programmed by the participating nations, will still fall nominally short of estimated requirements in 1951. It is, however, an exceedingly ambitious program for the next 4 years. The planned additions, ranging from 4.7 million KW in 1948 to 5.9 million in 1951, compare with an estimated 1.8 million in 1947 and 1.5 million in 1938.

This planned increase is larger, both absolutely and percentage-wise, than the probable expansion of United States power capacity over the same period of time. In making this comparison, however, it must be remembered that the United States does not have the same problems of making up for wartime deficiencies. It is not the desirability of the program which is doubtful but rather the necessity and the feasibility of accomplishing it within 4 years.

Power development plans for at least the major participating countries had been prepared by competent engineers before the Marshall Plan was proposed. The European representatives report that in most instances the plans for specific projects are completed and orders for critical machinery placed. In general there is little reason to question the soundness of the program or its ultimate desirability. However, the consensus of those who are informed on European capacity to produce electric equipment is that it may well take six or seven years instead of four.

Almost all of the necessary equipment for the 5 billion dollar "national" program, to add over 21 million kilowatts of capacity, is expected to be produced within the participating countries. There are 300 million dollars of special equipment which they anticipate will have to be obtained from the United States. The latter figure includes such diverse elements as valves, machine tools and construction equipment. Only a small part would be electric equipment and apparatus.

The inability of European producers to turn out the required equipment within 4 years would not necessarily bring any additional demands on United States manufacturers. These projects must be scheduled long in advance and the equipment takes a long time to produce. By the time it has been demonstrated whether the European producers can or cannot handle the program, it would be rather late to divert the orders to the United States and expect delivery within the 4-year period. Insofar as the whole program falls behind the schedule it might require less rather than more of the special equipment which they plan to obtain from the United States.

In addition to the large "national" program there is a small so-called "international" program to cost about 300 million dollars and provide another 2.3 million kilowatts. It is proposed that the United States provide all of the equipment amounting to about two-thirds of the total cost of these projects. This program also seems reasonable—except perhaps as to timing—but the individual projects should be subject to the careful examination and approval of whatever agency is to do the financing.

In view of the potential error in their assumption that European producers can supply all of the equipment for the 5-billion-dollar national program within 4 years, it is not clear by what process of reasoning the CEEC arrived at the conclusion that the equipment in the 300-million-dollar "international program" was a precise measure of the quantity which would have to be obtained from the United States.

The bulk of the "international" program is still in the preliminary planning stage. Also the bulk of it is hydro and some of the projects are not scheduled for completion until after 1951. Even if arrangements are made promptly to go ahead with the individual projects it will be two or three years before the major items of equipment will be required from the United States.

In summary, the reported requirement of electric generating, transmission and distribution equipment from the United States in the first 2 of the 4 years is so small as not to create any major difficulty. Other equipment required for the electric power program would be somewhat more important. While precise information is not available, this other equipment includes some items which are in relatively easy supply as well as some which it will be difficult to provide.

Generating and distribution equipment required in the last year or two of the program—or possibly not until even later—bulk somewhat larger relative to the capacity of United States equipment producers. The total stated requirement is roughly one-fifth of the current annual rate of outlays for equipment by United States utilities. Given that much notice, it should be possible to meet this requirement without serious inconvenience to electric power consumers in this country.

Report on Petroleum and Petroleum Equipment

I. Availabilities

Exports of petroleum and its products to countries participating in the European recovery program cannot be considered a drain on United States petroleum reserves, because the domestic industry is producing all the petroleum which can be efficiently recovered with present equipment and reserves and would not produce less if exports declined.

A. United States Petroleum Reserves

Throughout the history of the domestic oil industry, proved crude oil reserves have increased with expansion of the industry. The first estimate of reserves was made in 1922 by the United States Geological Survey and the American Association of Petroleum Geologists, and at that time the proved reserves in the known oil fields were 5 billion barrels. This estimate was subsequently found to be too low as recent estimates of the volume of oil which will be produced from these same fields since 1922 are approximately 8 to 9 billion barrels.

A thorough study by the American Petroleum Institute of all producing fields in 1925 indicated about 5.3 billion barrels of reserves then in sight. Later developments likewise proved this estimate to be low.

The Federal Oil Conservation Board made an estimate of proved reserves in 1932. A number of important fields had been discovered since the 1925 estimate and the board found that oil available in the future from fields then producing was 10 billion barrels. Starting in 1934, the American Petroleum Institute has been making an estimate of proved reserves at the end of each year. These estimates represent the opinions of men in the oil industry who are best qualified to express a view on the important subject of reserves. The first annual estimate indicated approximately 12 billion barrels of proved reserves at the end of 1934 and subsequent estimates have shown a gradual increase in reserves each year since that date. Data from this annual survey for the years 1937 through 1946 are shown in the following table:

Known United States Petroleum Reserves

[In thousands of barrels]

NEW OIL BLOCKED OUT DURING YEAR

Year	Through revisions of previous estimates and extensions to known fields	Through new fields discovered during year	Production during year	Estimated proved reserves as of end of year
1937.....	2,792,790	928,742	1,277,641	15,507,268
1938.....	2,243,571	810,493	1,213,186	17,348,146
1939.....	2,058,455	340,667	1,264,256	18,483,012
1940.....	1,607,012	286,338	1,351,847	19,024,515
1941.....	1,538,969	429,974	1,404,182	19,539,296
1942.....	1,618,925	260,051	1,385,479	20,082,793
1943.....	1,202,368	282,418	1,503,427	20,064,152
1944.....	1,556,192	511,308	1,678,421	20,453,231
1945.....	1,690,315	419,984	1,736,717	20,826,813
1946.....	¹ 2,413,628	¹ 244,434	1,726,348	² 21,924,354

¹ The 1946 figures for new oil are for crude oil only and do not include new condensate (included in previous years) which is estimated at approximately 205,000,000 barrels.

² Includes condensate for comparison with previous years. (Data from American Petroleum Institute.)

Continued expansion of domestic oil reserves seems certain. It is anticipated that substantial quantities of oil will be found in the continental shelf area bordering the United States. Furthermore, future revision and extension of reserves in existing fields are expected to add to the domestic oil supply.

B. Productive Capacity

Refinery capacity in the United States is now being operated at about 95 percent of capacity. Some of the idle capacity is obsolete or poorly located, so that any substantial increase in domestic refinery production will require installation of new equipment. Expansion programs for refinery modernization and installation of new plants are under way, but progress has been retarded by the general shortage of new petroleum refining equipment.

C. Demand, Supply, and Distribution

The domestic demand for petroleum in the 25-year period, 1922 to 1946, has increased at a fairly uniform rate, except for breaks in the trend in 1930 and in 1942. The over-all increase during the period was from 1,455,000 barrels per day in 1922 to 4,884,000 barrels per day in 1946, a gain of 236 percent. Total consumption during this period amounted to approximately 30 billion barrels. Supplies of petroleum to meet this growing demand came from three sources: domestic crude oil production, natural gasoline and benzol, and imports of foreign crude and products. The most important of the three sources was domestic crude production which increased from 1,527,000 barrels per day in 1922 to 4,749,000 barrels per day in 1946. Production of natural gasoline and benzol also increased substantially but the combined domestic supplies were not enough to meet both the domestic and export demands, and it was necessary to import relatively large quantities of foreign crude oil and products.

It is estimated that the supply-demand situation for 1947 and 1951, as compared with actual figures for 1946, will be approximately as follows:

	Barrels daily		
	Actual 1946	Estimated 1947	Estimated 1951
Demand:			
Domestic demand.....	4,884,000	5,400,000	5,917,000
Exports.....	437,000	450,000	250,000
Total demand.....	5,321,000	5,850,000	6,167,000
Increase in stocks.....	119,000	6,000	0
Total.....	5,440,000	5,856,000	6,167,000
Supply.			
Domestic crude oil production.....	4,749,000	5,068,000	5,068,000
Natural gasoline and benzol.....	321,000	358,000	400,000
Imports.....	370,000	430,000	699,000
Total supply.....	5,440,000	5,856,000	6,167,000

This estimate is based on the assumption that new oil supplies will be found at approximately the same rate as during the past few years and that exports will gradually decrease as additional foreign supplies become available.

Localized petroleum shortages may arise in the United States in the coming year. They will result, however, not from a deficiency in the domestic and foreign petroleum resources, nor from exports, but from the shortages of tubing, casing, and pipe line for oil-field development and the inadequacy of overland transportation capacity to carry the tremendous volumes of petroleum products now in demand in the United States. Pipeline and tank car expansion programs now under way is expected to gradually change this situation. However, the domestic market in the United States is expected to expand more rapidly than supply. Consequently, there will be less petroleum available for export in future years than there is at the present time.

The problem of tank car shortages and certain recommendations regarding increasing car availabilities appear in the next section, on transportation.

D. Imports and Exports

Since 1918, United States exports of petroleum products have ranged from 14 to 20 percent of total United States production, except in the years 1932-36 when exports were about 10 to 11 percent of production. Currently, however, exports bear a much smaller proportion to production—estimated at less than 8 percent in 1947. Exports have exceeded imports in every year since 1922, although they approached each other rather closely in 1941 and 1946. Imports are principally in the form of crude or fuel oil, while exports consist mostly of higher-value refined products.

Europe has always been one of our principal export destinations and accounted for 43 percent of our 1946 exports. However, our exports of petroleum products to Europe in 1946 constituted only about 3 percent of our total production of petroleum, as compared with over 6 percent in 1938. Exports to Europe in 1946 were below those of 1938 by 16 million barrels.

Lubricants, which account for a very large part of the volume of our petroleum exports to Europe, are not in especially tight supply, and their continued export may be anticipated. If consumption continues to grow, however, United States supplies of gasoline and fuel oils avail-

able for export will be reduced. We are already net importers of fuel oils and crude petroleum, and we may increase our imports of these commodities if new oil discoveries are inadequate to sustain a rate of growth of crude production equal to that of consumption.

II. European Petroleum Requirements

A. Requirements

Adequate supplies of petroleum, as a fuel and lubricant, are essential to the success of the European recovery program. Attainment of the food-production goals depends upon securing sufficient supplies of petroleum for operating agricultural machinery. Many of the major European industries including utilities, are largely dependent upon petroleum as a fuel. Petroleum is the only source of fuel for aviation and motor transportation both of which will play an increasingly important role in the economic development of the European countries. It is also the major fuel for inland and overseas shipping and it is of increasing importance in railway transportation.

The vital nature of petroleum as a source of energy in European recovery plans is further enhanced by the scarcity of solid fuel. The prospects of continued coal shortages make European industry and transportation rely more heavily on petroleum in their long run planning.

The consumption requirements of petroleum and petroleum products in 1948 are expected to be 60.5 million tons according to the CEEC report. Requirements in 1951 are estimated at almost 80 million tons. Consumption in 1938 was slightly over 36 million tons.

Petroleum Requirements of CEEC Countries

[In thousands of metric tons]

	1948	1949	1950	1951
Domestic production.....	2, 538	2, 588	2, 556	2, 544
Import requirements:				
From nondollar sources.....	31, 414	36, 526	42, 225	45, 004
From dollar sources.....	26, 593	29, 338	30, 650	32, 216
Subtotal.....	58, 007	65, 864	72, 875	77, 220
Total requirements.....	60, 545	68, 452	75, 431	79, 764

It is apparent from the table above that on the average, over 40 percent of the requirements of the Paris Conference countries must be secured from United States and other sources which require dollars for payment. On the basis of July 1st, 1947 f. o. b. prices, dollar requirements were reported as follows:

1948.....	\$577, 000, 000
1949.....	623, 000, 000
1950.....	641, 000, 000
1951.....	620, 000, 000

In addition, it is estimated that the European countries will require 485 million dollars to pay for shipping petroleum and petroleum products during the four-year period. Therefore, the total dollar requirements for petroleum and petroleum products and shipping during the 4 years is over 2.9 billion dollars.

B. Indigenous Production

During period 1948-51, the production of petroleum in Western Europe (including Germany and Austria) will be limited to small quantities of shale oil and liquid hydrocarbons. In aggregate, output is expected to be less than 5 percent of requirements. Therefore, Europe must import the bulk of its requirements from the non-CEEC countries.

Sources of European imports.—The source of European petroleum supplies in 1946 were as follows:

Source:	Percent of European requirements supplied from each source
Caribbean area	45
United States	20
Europe (including crude oil and liquid hydrocarbons)	20
The Middle East	15

These exports to Europe were 36 percent of total exports from the Caribbean, 43 percent of total exports from the United States and 18 percent of total exports from the Middle East.

It is expected that over the four-year period, European imports from the Middle East will increase rapidly both in absolute and percentage terms, and supplies from the United States will decline. Imports from the Caribbean area will probably continue to increase in tonnage terms, but will decline as a percent of the total.

The production, refining and exportation of petroleum and petroleum products from the major producing areas are handled primarily by American and British oil companies. The imports of all the CEEC countries can, therefore, be divided into oil produced by American companies and oil produced by British companies. Only limited supplies will be imported from sources not owned by American and British capital. Thus, two import categories are used in the CEEC report. They are "dollar supplies" and "nondollar supplies." These categories have been used instead of a subdivision of imports by geographical area of origin, such as the United States, other American continent sources and sources outside of the American continent. Oil from dollar sources is not necessarily supplied from the United States; it comes from American companies wherever they may be located in the United States, Caribbean, Middle East and elsewhere.

Although in the CEEC report, the assumption is made that the proportions of dollar and nondollar oil will remain relatively constant over the 4-year period, this does not mean that the United States itself will supply a constant proportion of total import requirement. It means only that the United States companies will supply a constant proportion of European supplies.

C. World Supply and Export Availabilities

In 1946 crude oil production from all sources throughout the world was about 392 million tons. A rapid increase in world production is expected with output reaching 500 to 550 million tons in 1951. Sources of this output are estimated as follows:

Source:	1946	1951
United States	63	54
Other Western Hemisphere countries	19	17
Middle East	9	20
U. S. S. R.	6	6
Other countries	3	3

It should be emphasized that the forecast for 1951 is highly tentative.

Expansions in refining capacity are under way in the United States, and large-scale increases in crude output, refining capacity and petroleum transportation facilities are scheduled elsewhere in the world. However, according to the best available information, the present world shortages of petroleum and petroleum products will continue at least during the next few years. This shortage is so serious that supplies will not be available to meet the projected requirements of the European countries.

It is expected that shortfalls against European requirements may be as much as 5 to 10 percent in 1948, 10 to 15 percent in 1949, 15 to 20 percent in 1950, 10 to 15 percent in 1951. Although requirements increase faster than supply during 1949 and 1950, rapid increases in the availability of petroleum and petroleum products from the Middle East are expected to begin narrowing the gap by 1951. In later years supply may catch up with European needs.

As world output increases, Europe will continue to import primarily from the Caribbean area, Middle East, and the United States. However, production from the Middle East will be increasing very rapidly and this area will become a more important source of petroleum and petroleum products for Europe than the United States. Supplies from the Caribbean will continue to be large, but the percentage of European imports which they constitute will probably diminish. Exports from the United States will decline.

In view of the world petroleum deficit, it is recommended that United States companies ship to Europe whatever supplies of petroleum and petroleum products are available. However, it will be impossible for United States sources to meet the entire European dollar oil requirement. Consequently, the Committee believes that the European countries must make a downward adjustment in their planned levels of petroleum imports and consumption. However, it should be emphasized that the data on which this conclusion is based are highly tentative after 1948. Should the world supply position improve, or should petroleum requirements in other parts of the world fall below expected levels, there will be a corresponding increase in the availability of supplies for Europe.

III. Petroleum Equipment Requirements

The CEEC countries have planned an ambitious program to expand petroleum refining, transportation, and distribution facilities during the period 1948-51. Their report estimates that 1.9 billion dollars of petroleum equipment will be required to meet the needs of oil companies owned by nationals of the CEEC countries. It is estimated that 1.3 billion dollars of this total will be obtained from sources in the Paris Conference countries. The estimate of requirements from the United States is 588 million dollars.

The 1.9 billion dollars cover the equipment requirements of the non-United States oil companies which operate within the Paris Conference countries. In addition, the estimate covers the equipment requirements of British, French, and Dutch oil companies throughout the world to enable them to produce the petroleum and petroleum products which the CEEC has stated can be secured from their own sources and from sources where dollars are not required in payment.

The method of calculating the equipment requirements by the CEEC raises serious question. The Paris Conference report includes no equipment requirements for United States companies operating within Western Europe. Furthermore, the European countries apparently did not include in their calculations any allowance of indigenous equipment to meet the needs of these same companies. This appears to violate a fundamental principle on which the United States has consistently sought agreement. Our Government has urged that American concerns operating in foreign countries receive equal treatment with foreign-owned companies in all their commercial relations, including the purchase of equipment from local supply sources. The United States has also insisted that United States owned companies operating in foreign countries should have equal rights with local concerns in securing import licenses and foreign exchange. The United States should insist that American companies be granted equal rights with foreign concerns in procuring petroleum equipment for use in CEEC countries from indigenous and import sources.

It is recognized that, if United States companies in Europe have access to equipment from indigenous European sources, the equipment import requirements of the CEEC countries would be increased. In the judgment of the Committee it may be necessary to supply more dollars to the CEEC countries for the procurement of petroleum equipment than would otherwise be necessary, but it is important that the principle of nondiscriminatory treatment be established.

IV. Conclusion

The CEEC petroleum program assumes a substantial conversion of European manufacturing and utility industries to oil-burning equipment. It also assumes a very substantial increase in over-all industrial capacity, and that new capacity being built is designed to burn oil rather than coal. It appears from other sections of the program that many of the European production and plant expansion goals are overly optimistic. They are dependent upon optimum conditions for production in Europe and upon requested imports from the United States which will not be available. Insofar as European production and plant expansion fall short of CEEC goals because of indigenous factors or shortfalls in imports from the United States and other sources, petroleum requirements will also be reduced below the stated level. Consequently, the inability of the European countries to procure their stated petroleum requirements in the world market will not handicap their economic recovery program as much as would be indicated by the comparison of requirements against supply presented earlier in this memorandum. Any specific downward adjustments in petroleum requirements which may be necessary because of shortfalls in imports of raw materials and machinery should be made on an individual country basis as the program develops.

Report on Transportation

I. Introduction: The Problem and the Approach

A. The Problem

United States aid to foreign countries raises three questions with respect to transportation.

1. What is the physical impact on our United States transportation system of the movement of export cargoes in the volume likely to be involved in a foreign aid program? Can such a volume of cargo be transported to seaboard and carried abroad without seriously affecting the movement of goods for United States consumption? Are any special administrative arrangements or control measures necessary to insure minimum conflict between the transportation needs of the domestic economy and an export program?

2. What are the implications for our merchant marine? Will ocean shipping be available to carry a sizeable program of exports from the United States? How much dollar exchange will European countries need to pay the ocean freight charges on such a program? How can they best secure the tonnage required to keep these dollar freights down to a reasonable figure? In view of shortages of steel and other materials, are heavy European ship construction programs wise when we have surplus ships in our fleet? Can we transfer any further United States tonnage abroad without jeopardizing the long-range objective of our merchant shipping policy?

3. What are the needs of Europe for inland transport equipment? What is our capacity to produce an exportable surplus of the critical items? Will supplying these needs now significantly promote Europe's ability ultimately to stand on her own feet? What can Europe do in return better to utilize its existing transportation facilities and to revive its own capacity to maintain them through the production of transportation equipment within Europe itself?

B. The Approach

The most practical guide to the future is the experience of the recent past. We can assume that no aid program acceptable to the American people is likely to result in the movement of any larger overall tonnage of United States exports than we were shipping abroad during the second quarter of 1947, though individual items may move more heavily.

That this is a reasonable assumption is shown by the following:

1. The value of United States exports of goods and services exceeded the value of imports during this period at an annual rate of well over 12 billion dollars. Foreign countries have neither the capacity to export goods required to narrow this gap significantly, nor the financial resources to maintain for long more than a fraction of this dollar

deficit. Europe's share of the deficit is about half. Should an aid program maintain or even increase exports to Europe, the other areas of the world will be forced to reduce their purchases. Thus, the mere maintenance of the current dollar volume of total exports would require the extension of credit by the United States at a rate as high as any being suggested by responsible analysts.

2. Grain and coal are the main export items which strain our transport system. Although they represented only about 15 percent of the value of our exports in the first half of 1947, they made up about 60 percent of the total tonnage shipped out of the country. Limitations of port capacity will prevent us from expanding the overseas shipment of coal much above the annual rate of 47 million tons achieved in the second quarter of 1947. There will certainly not be enough grain available to maintain the 20-million-ton annual rate reached for this commodity in the same period. Hence an aid program will not make our transport difficulties any worse than they have been.

Our problem is not whether our transportation system can take on a big new job, but rather whether it can continue to do well the job it has been doing. The answer broadly is that, if certain conditions are met, it can. By examining some of the tight spots in our recent transport picture we can see where to expect difficulties and what can be done to remove them.

II. The Burden on the United States Transport System

In summary, the main transportation problems raised by a large export program arise from the necessity to move internally in the United States, through limited port facilities and by vessel to foreign countries, large quantities of grain and coal.

The remaining general cargo movement is not likely to be much larger in tonnage than normal prewar or ultimate postwar commercial exports. During the first half of 1947, water-borne dry-cargo exports from the United States were about 44 million tons, of which roughly 10 millions were grain, 20 millions were coal.

This leaves about 14 million tons for 6 months or an annual rate of 28 million tons of general dry cargo excluding the abnormal grain and coal movement. Total overseas dry-cargo exports averaged about 25 million tons before the war and have been predicted by the Commerce Department at about 34 million tons for a normal postwar year. Thus, we may say that apart from grain and coal the tonnage of dry-cargo exports in the event of an aid program will not be much greater than the postwar normal commercial movement.

A. The Critical Factors in United States Transportation

The two most serious problems of inland transport raised by the export movement are the supply of boxcars to move grain products and the supply of open top cars to move coal. There is no serious shortage of line and terminal facilities and railway motive power is not a bottleneck for the country as a whole.

The burden of exports on motor transport is impossible to separate from the burden of moving commodities for domestic consumption, but the large-tonnage export commodities, such as grain, coal, fertilizers, iron and steel products, cotton, and the like travel from source to ship-side almost entirely by rail or inland waterway. In any case, the con-

dition of the Nation's trucking facilities, while subject to improvement, is fairly good and their capacity in general adequate to handle the current load.

The inland waterways are affected by exports primarily because of the heavy export grain movement from the northwestern area across the Great Lakes to eastern ports. There is an adequate supply of lake and canal vessels to handle this movement without interference with domestic transportation. The limit on the capacity of the inland waterways is set not by waterway equipment but by the rail facilities generally required at both ends of the waterways.

The movement of petroleum involves special equipment and raises problems quite different from those posed by dry-cargo exports. There is a shortage of tank cars created in part by the phenomenal increase in consumption of petroleum products which have occurred since the war and in part by a failure of our midcontinent fields to produce enough oil to supply the areas normally served by those fields.

The export movement is a negligible factor in the tank car position. We are on balance a net importer of petroleum, bringing in more crude than we ship out in refined products like gasoline and lubricating oils. A good deal of this refining is done near tidewater and requires no inland transport. Those exports which do move some distance in tank cars represent a negligible fraction of total tank-car traffic. It is to be hoped that current programs of pipe-line and tank-car construction will ease the tight position soon, but in any case a foreign aid program will make little difference to this set of problems.

With respect to boxcar and open top cars, the question is whether the difficulties are in fact mainly due to the export program, or whether they are rather for the most part a result of the high level of domestic activity and would be present even in the absence of an export program. Unfortunately, this question cannot be answered definitely. The Bureau of Labor Statistics has estimated that the proportion of employment in transportation directly and indirectly attributable to exports was around 9 percent during the first half of 1947. This includes all transportation involved in carrying raw materials for export commodities to factories, goods, from factories to warehouses, etc. However, this does not mean that, if exports were cut off, 9 or 10 percent of the demand for transportation would vanish. Some things now produced for export would be transported, sometimes further, for domestic sale, and other things not now produced would be made with resources released from the export industries. It is impossible to say how much relief on balance would result, if any.

In any case, what is at issue is the cessation not of all exports, but rather of those additional exports which would be financed by an aid program. The bulk export items which are straining our transport system—mainly grain and coal—are relatively low in cost and most desperately needed. They would in all probability be the last things to be dropped from the export list to Europe if no additional credits were granted by the United States. If cuts were forced on Europe by lack of funds, they would first affect high-cost and relatively low-weight items, and would thus afford our ports and railways only mild relief.

It should be kept in mind throughout the discussion which follows that we have accomplished a movement such as the one here proposed in the recent past. The railroads have already met, during the war and

in the postwar period, fully as great a challenge as any they will be called upon to meet under an aid program. They loaded during the first 2 weeks of October this year more carloads of revenue freight than at any time during the war—more indeed than during any comparable period for 17 years. They achieved this record with a little over three-quarters the number of freight cars they had at the previous traffic peak in 1930. The inevitable result of this great expansion in the traffic to be carried by a shrinking pool of cars has been the development of tight spots. If we do not deal with these quickly and decisively, we will have serious transportation troubles whatever we decide to do about aid to Europe. The car pool must not be allowed to shrink further. Car production must be brought up to levels sufficient not merely to maintain but to increase and to modernize our car population. This will take time. Meanwhile, every effort must be made to continue the recent trend of improvements in car utilization.

If these problems are attacked with the vigor and intelligence which characterized our wartime railroad achievements, our experience demonstrates not only that we can meet the transport requirements of the Marshall Plan, but that we can do so without seriously affecting the high level of transportation required to support maximum production and employment in this country.

B. The Grain Movement: Boxcars

The export grain movement during fiscal 1947 has probably contributed to shortages of boxcars which have caused delay and inconvenience to domestic shippers. These difficulties arise only in part, however, from the export movement. Boxcar ownership has declined steadily in recent years in the face of a mounting volume of traffic. Even if there had been no exports recently, the boxcar situation would still have been difficult. Nevertheless, in spite of the delays and inconveniences to which shippers have been subjected, the railroads have in the main been meeting essential requirements for boxcar transportation. Improvements in car handling have reduced turnaround, moved cars to where they were most needed, and resulted in greater efficiency in loading and discharge. The consequence has been a much more rapid movement of this year's grain crops off the farms and to final consumers than in any recent years.

The prospects are that if the necessary steps are taken with respect to car production and utilization, the boxcar situation will improve during the coming year. The period of peak load for the railroads is September and October. Any new aid program will thus be launched after this year's peak has passed. By a year from this fall, it is hoped that freight car ownership will have increased enough to eliminate a good deal of the strain imposed by this season's grain movement, especially as it is unlikely that we will have another bumper crop as large as the current one. After 1948 there should be no difficulty in view of the prospects for a declining export movement and a continued increase in car supply.

This increase in car supply is, to be sure, crucial. Improvements in car handling have more than compensated for recent declines in the boxcar population but there is a limit to what can be done with fewer and fewer cars. Whether or not we undertake an aid program, serious boxcar shortages can only be avoided if the car construction program described below is successfully carried out.

Likewise, the railroads must push their repair activities as energetically as possible. In some areas the proportion of bad order cars has been rising alarmingly. On one large Eastern railroad, for example, it has recently been in excess of 11 percent as compared with a normal of 6 percent in prewar years. Our freight-car population verges too closely on inadequacy for us to allow any cars to be wasted for want of repairs.

Finally, vigilance must be maintained over boxcar utilization. Any relaxation of efforts currently being made to insure quick turn-around, full loading of cars, quick dispatch at ports, and prompt routing of empties to shortage areas could more than wipe out the improvements expected from new car deliveries. Though the railroads have been loading more and more cars with a smaller and smaller car population, this good record can no doubt be improved upon. It is a job for procuring and shipping agencies at least as much as for the railroads. For example, maximum advantage must be taken of the shipping facilities of the Great Lakes during the months when the lakes are navigable. This means that heavy advance shipments must be made from the current crop to eastern ports and overseas before December. Any interruptions which might result from timid or spasmodic procurement would reduce our total export capacity. Export commodities must be bought at times and places which will minimize the strain on transport. Similarly we must make maximum use of those routes which involve the smallest rail burden. For example, when grain is available in the southwestern producing areas, the gulf ports nearby must be used up to their practical loading capacity.

The 5-day week in industry, generally coupled with more holidays and a consequent rise in temporary plant shutdowns, has undoubtedly increased car detention. Since cars are in the hands of shippers or consignees for a large fraction of their total turn-around time, these delays are of real importance. Wherever possible incentives should be established to encourage overtime and special handling to reduce turn-around. Procuring agencies, domestic and foreign, can assist in putting pressure on suppliers for quick car dispatch.

These are merely examples of what is meant by the exercise of continuing vigilance over car utilization by railroads and shippers. It is the view of representatives of the railroad industry that a grain export program of the order of magnitude of 12 to 15 million tons (probably the limit of the supply available) can be handled during the coming year, and at the same time that domestic boxcar needs can be met, but this can only be achieved if freight-car production improves and car utilization is at the very least maintained.

C. The Coal Movement: Open-top Cars

Many of the same considerations that apply to the grain movement apply in similar fashion to the coal movement where the bottleneck is open-top cars rather than boxcars. In recent weeks the open-top car problem has become especially acute. October is the month of peak demand for this type of equipment, and shortages of cars for coal have at times exceeded 30,000 cars per week. These shortages are in one respect more serious than boxcar shortages. When boxcars are not available, the shipment of cargo is delayed, but when open-tops are scarce coal production is reduced since most mines have no facilities

for stock piling. In recent weeks substantial tonnages of coal have been lost through car shortages.

These shortages are to some extent the result of an increase in the production and export of coal, but much more significant are a large increase in the movement of other commodities handled in open tops and a continuing decline in total railroad ownership of this type of equipment.

It is estimated that coal production will be some 50 million tons higher this year than last. Exports were held down during the early stages of the postwar export movement by the fact that coal was not available for shipment through Hampton Roads, the principal United States port equipped to handle really large quantities of export coal. Recently, with the increase in coal production, the areas normally shipping through Hampton Roads have been able to produce an exportable surplus. The port capacity ceiling on water-borne exports has thus been raised to between 4.5 and 5 million tons per month. The limiting bottleneck on exports has now shifted from port capacity to open-top cars.

That the shortage of open tops cannot be blamed primarily on the higher rate of exports is apparent from the fact that total coal exports this year (40 to 50 million tons) will probably be about equal to the increase in coal production over last year. The export movement absorbs about 7.5 percent of total coal production and about 5 percent of the total supply of open-top cars. A more important factor accounting for the tight car position is the increase in car loading of ore, sand and gravel, and similar commodities. The increase in loadings of these items in open-top equipment from mid-1946 to mid-1947 was greater than total carloadings of coal for export in the period. The program of ore movement from the lakes this year called for 80 million tons as against 60 million last year, and we have been meeting this larger program more promptly. Construction of all kinds has been booming, making heavy demands on open tops for the movement of materials. We are now in the most critical period of the year when movement of the sugar beet crop increases the demand for these cars before the hauling of ore and construction materials has declined for the winter. Car shortages have been limiting coal production significantly in recent weeks and the November target for coal export has had to be reduced by a million and a half tons to conserve cars.

In considering the impact of a possible new aid program, however, this immediate crisis is irrelevant. What we must consider are the prospects for calendar 1948 and beyond. There are some disturbing factors in this longer run picture. Construction demands will undoubtedly be at least as heavy next year. More important, if domestic and export steel targets are to be met, a considerable further increase in the ore movement from the lakes next year is unavoidable.

On the other hand, there are some hopeful signs. If we can get through the critical year 1948, export coal requirements will fall off in subsequent years. Much depends on what happens to our coal car pool in the near future. Here again the stepping up of car production to at least the currently accepted goals is absolutely essential. There are better than 50,000 open-top cars now on order, and more orders should and probably would be placed if deliveries were to improve.

Even were the 50,000 cars now on order to be delivered to the railroads during the next year, however, total open-top ownership would

increase by only 2 or 3 percent, making allowance for inevitable retirements. Recent experience demonstrates that railroads and shippers must find ways of improving utilization substantially if our full coal-producing potential is to be realized. There is still some slack in our use of open tops. Cars are still used longer than necessary for storage, the most economical routing is not always employed, and turn-around at loading and discharging points could be shortened still further. Over-elaborate classifications of types of coal reduce the possibilities of pooling orders and increase car delays. The 5-day week in coal-mining and coal-consuming industries has increased car detention over week ends. Shippers, consumers, and railroads must take whatever steps they can to offset this unfavorable effect by occasional overtime and other measures to keep at a minimum the bank of cars idle over week ends awaiting loading and discharge.

The Committee is convinced that the railroads are fully aware of these problems and will make every effort to solve them in cooperation with shippers. We believe the transport of up to 50 million tons of export coal can be accomplished and that, with vigorous efforts to increase car production and improve car utilization, this can be done without depriving the domestic economy of badly needed open-top cars.

D. The Car Production Program

We have seen that in both boxcars and open-top cars it is essential that the recent decline in railroad ownership should be arrested and reversed. The car production record in recent months has been disappointing. Car production was slow in reviving after the war for a variety of reasons. The reconversion troubles and material shortages that plagued so many industries were in evidence here. In addition the railroads, worried by financial difficulties and uncertain of the future, were slow in placing orders. In consequence the car-building industry felt free to accept rather large export commitments. This was fortunate from the standpoint of European recovery, since a complete breakdown of European transport, especially in France, was avoided in considerable measure by the infusion of new equipment from America. Furthermore the foreign orders probably enabled the car builders to iron out early difficulties in their post-war operations which would otherwise have plagued production for the domestic market. Nevertheless this production for export meant that when the American railroads finally realized the urgency of their needs and began placing substantial car orders they could not get quick deliveries, partly because of the export cars in the production pipeline.

Production for export tapered off rapidly during the first half of 1947 and came to a virtual stop by August. The failure of domestic deliveries to pick up as planned in the last 2 or 3 months is somewhat puzzling. Cars on order and undelivered have been in excess of 100,000 ever since March (except for an April figure of 95,000). They stood at 113,680 on September 1. In February of this year an agreement was reached among the steel industry, the railroads, and the car builders providing for the delivery of steel to the last two groups sufficient to produce 7,000 cars per month. Under this program deliveries of cars should have reached the target by July. Yet July and August production were 5,879 and 5,963, respectively, less in both cases than retirements. This steel agreement was subsequently revised to provide steel for a target of 10,000 cars which was to be effective with

October car deliveries. In September, deliveries slightly exceeded 7,000 cars.

There have been charges and countercharges as to the reasons for the recent deficiencies of car production. The car builders allege that they have not received sufficient steel to meet the program. The steel industry, on the other hand, contends that the car builders have not been using the steel delivered to them in the most efficient way. This Committee is in no position to pass judgment on the merits of this dispute. Perhaps we are merely witnessing the inevitable lag required before a new production program can gather momentum. All parties are agreed that the steel inventories of individual car builders are unbalanced, and steps are being taken to provide a more balanced flow of all kinds of components. It may be that the next 2 or 3 months will see the present target achieved.

One thing is clear, however: that the car-production program in both box cars and open tops is of the most vital importance to the United States. Our car population is over age, and we must anticipate abnormally high retirements over the next few years. As we shall see later, there is genuine need of further import into Europe of American rolling stock. In view of this need and of the critical nature of domestic car requirements, we feel that the target for monthly production should be raised to the maximum possible with existing facilities. Twelve thousand cars per month should be regarded as a rock-bottom minimum. If this target is not reached within a reasonably practical length of time a commission of competent independent technical experts should be appointed to investigate in the field the reasons for the failure and to recommend remedial action. If it should be determined that additional steel is necessary to attain the twelve thousand car target, such steel should be made available as a matter of highest priority.

If these steps are taken successfully, total ownership should turn upward in the near future and there should be a continued easing of both the boxcar and the open-top position.

E. Financial Impediments to Railroad Efficiency

The railroads argue that their present financial status prevents them from taking certain measures which would expedite repair and improve utilization. Special efforts in these directions are costly. They involve such items as overtime rates for labor, extra capital expenditures for maintenance and repair, larger servicing crews to provide stand-by capacity for peak loads, and the like. The railroads point out that in an inflationary period like the present an industry which depends on the slow process of appeal to regulatory bodies for rate increases is inevitably caught between rapidly rising costs and lagging revenues. When net receipts are inadequate as at present the economies the railroads feel forced to adopt are bound, they say, to be reflected in lower operating efficiency.

The merits of the railroads' case for rate revision must be determined by the ICC. It is apparent, however, that whatever the decision, rate appeals should be acted upon just as rapidly as possible consistent with sound judgment. Protracted uncertainty may well have a disruptive effect on operating efficiency. If railroad revenues are inadequate, the situation should be corrected promptly. If it is not, any postpone-

ment of a decision to this effect may delay operating decisions essential to good utilization.

The interim rate increase recently granted the railroads meets part of their argument. This stopgap cannot, however, be expected to dispel the results of uncertainty concerning the outcome of the principal rate appeals now pending. The quickest possible action on these appeals would make, in our judgment, a contribution to improved efficiency.

F. Control and Coordination

The present high level of exports has been achieved only with the aid of certain measures taken to insure maximum loading of boxcars, expedite the turnaround of railway equipment, prevent congestion and delay, direct the movement of commodities to ports in accordance with their capacity, and insure the greatest possible degree of coordination between allocations to claimants, rail movements, and vessel availabilities. Some of these measures will have to be continued for at least a year if a new aid program is not to interfere with domestic transportation. Many of the measures recently in effect have been based upon a philosophy of voluntary cooperation by private interests rather than one of compulsive controls. The principal measures referred to are as follows:

1. *Allocations and export licenses.*—United States agencies establish in advance of the month of shipment allocations of grain and coal dividing the available supplies among the various claimant countries with an indication of the ports through which they are to move. These allocations are enforced in the case of grain through the procurement powers of the Department of Agriculture and through export licensing; in the case of coal through export licensing and the control of rail shipments to port.

2. *Rail permits and embargoes.*—The ODT, the ICC, and the AAR jointly operate a system of permits required for the loading into cars of coal and grain destined for the eastern ports. These permits are issued in accordance with the allocations previously established, and prevent the movement to port of bulk cargo, especially coal, in excess of the practical capacity of the ports. In costal areas where the permit system does not apply, the railroad agencies have and exercise a power of embargo to prevent the further flow of cargo to a congested port until it is cleared.

3. *Car orders and priorities.*—The ODT and ICC have the power to direct the movement of cars into areas where they are most urgently needed and to establish priorities requiring that cars be used for loading grain, for example, in preference to other commodities. The priority power has not been frequently exercised. Its use is likely to reduce rather than increase efficiency, and should be avoided except in cases of emergency.

4. *Conservation of equipment.*—Two orders issued by the ODT, Nos. 1 and 18, are intended to insure that cars are not wasted through being loaded with less freight than they are capable of carrying. Roughly speaking Order 1 requires the railroads to load cars with a minimum of 10 tons of merchandise while Order 18 requires carload shippers to load cars to their capacity.

5. *Procurement.*—In the case of wheat, all purchases for shipment to European countries are now made through the Department of Agri-

culture. Centralized procurement of coal was abandoned less than a year ago. Experience has indicated that, with effective coordination, private procurement of coal directly by the foreign buyer is consistent with the orderly movement of a large volume of exports. This lesson appears to be applicable to the transportation aspects of the grain problem, though there are arguments for the public procurement of grain unrelated to transportation issues.

6. *Coordination by the Office of the Coordinator of Emergency Export programs.*—This office keeps in touch with all aspects of the grain and coal movements, secures the cooperation of claimants and suppliers in planning orderly shipment, deals with particular bottlenecks or crises as they arise, tries to foresee future trends and secure action to meet them by the agencies concerned, and generally supervises the bulk export program. It operates entirely without compulsive authority.

It or something like it is an indispensable part of any machinery set up to administer an aid program.

Experience suggests that, in view of the expectation that there will be some continued stringency in car supply for some time to come, the exercise of measures like the above will continue to be necessary. The export licensing power which expires next March should be renewed for at least another year. This power permits an indirect control of private trade which might otherwise have to be replaced by cumbersome and undesirable public procurement machinery. Similarly the coal allocation procedure appears to have worked well and should be continued.

With the exception of ODT orders 1 and 18 the actual administration of the railroad controls has been for the most part in the hands of the two permanent railroad agencies, the ICC and the AAR. These agencies have the authority to continue most of these controls even if the authority for the ODT is not continued. Should this authority expire, it is recommended that the ICC adopt and police the substance of Orders 1 and 18.

Because of the existence and experience of the permanent railroad agencies, there is no need for a large governmental agency to exercise detailed rail control functions in connection with a program of foreign aid. Nor, we believe, is there need for any legislation providing for control measures not now within the authority of these agencies, if they will exercise the powers they possess vigorously. It is essential, however, that the importance of transportation be adequately recognized by any agency which the Congress may wish to establish to administer a foreign aid program.

Such an agency should take responsibility for coordinating procurement, rail transport, and ocean shipping. It should not have a large transportation division, but should work, in railroad matters, through the ICC and the AAR to break bottlenecks, expedite special movements, and exert continuing pressure on procuring agencies, shippers, railroads, and cargo handlers for improved turnaround of rolling stock. It is our conviction that such informal expediting and troubleshooting through existing agencies will be much more effective and more appropriate to current conditions than any more formal and elaborate mechanism.

With measures such as these in use we conclude that the transport of an export movement of the current size would not significantly

interfere with the transportation requirements of the domestic economy.

III. The European Shipping Industry

In contrast with the European economy as a whole, the shipping industry has emerged from the war in a relatively healthy position. What is more, the Paris report on maritime transport reveals a program of rapid expansion over the next 4 years.

The long-term trend in the size of the fleets of the 16 nations participating in the Marshall Plan is compared with the trend of our own fleet in the following table. The estimated 1951 position of the United States fleet is the figure frequently used by the Maritime Commission to represent the postwar normal.

Table 1.—Merchant Fleets, Dry Cargo and Tankers

[In millions of deadweight tons]

	Prewar	Mid-1947	End 1951
16 European nations.....	48.2	39.6	55.4
United States active.....	9.3	30.0	11.4

As noteworthy as the projected growth is the fact that the aggregate fleet of the 16 nations will be made up largely of newer and faster types. The not-uncommon belief that Europe must struggle along with an antiquated merchant marine has no foundation in the statistical evidence of the Paris report. Calculating the 1951 age-distribution of the European fleets on the basis of the new construction and scrapping programs, the comparison with the past and with the calculated age-distribution of our own active fleet would be as follows:

Table 2.—Percentage Distribution of Tonnage in Age Groups

[Dry cargo only]

	Fleet of 16 nations			United States active fleet		
	Prewar	1947	1951	Prewar	1947	1951
0-5 years.....	13	44	30	3	94	9
6-10 years.....	12	13	41	3	4	88
11-20 years.....	45	13	16	38	2	3
Over 20 years.....	30	30	13	56	.....	.....

The heavier concentration of the newer vessel types in the projected European fleet results from an extraordinary new construction program combined with a reasonable scrapping program. Below are outlined the major components in the projection of the fleet of the 16 nations as submitted by Paris:

Table 3.—Dry Cargo and Tanker Fleets of 16 Nations

[In millions of dead-weight tons]

Fleet June 30, 1947.....	39.6
New construction.....	15.5
Future purchase of United States war-built vessels.....	3.0
	18.5
Withdrawals.....	58.1
	2.7
Projected fleet, Dec. 31, 1951.....	55.4

In the original Paris report the program of United States warbuilt vessel purchases for delivery subsequent to June 30, 1947 was placed at 3.0 million deadweight tons.¹ After a series of adjustments in Washington this figure was finally expanded to 4.0 million deadweight tons but, for various practical reasons, we have adhered to the original estimate. In relating either of these figures to the foreign sales policy of the Maritime Commission it is important to note that purchase applications have already been approved on many of the vessels included in the forward purchase program. Consequently, additional Maritime Commission approvals on the sale of 100 to 200 ships would probably be sufficient to enable the 16 nations to accomplish their entire vessel purchase targets. A narrower range of estimate is impossible at this time in view of the confusion in the European vessel purchase plans as related to us.

The paradox of a high level of European vessel construction and a large American surplus of dry cargo vessels carries implications far beyond the scope of the Transportation Subcommittee. The basic question is whether America should be asked to finance a part of this optimistic program. Furthermore, the steel required to meet the program represents almost 5 percent of the entire steel requirements embodied in the Paris proposals. It represents more than one half of the proposed imports of steel from the United States.

To find even a partial precedent for such a high level of merchant ship construction in Europe we would have to go back to the period immediately following the first World War. Over the ensuing twenty-five years the European yards were relatively inactive and, even in the recent war, the volume of output was below the level projected for the four-year period. In view of the preoccupation of the European yards with repair and reconversion work and in view of the slow pace of the work on the shipping ways, the realism of the Paris target is debatable even on the assumption of a liberal supply of American steel. The current annual rate of output of the shipbuilding yards of the 16 nations is about 3.0 million deadweight tons.

The paradox with respect to new construction has been discussed at length with the maritime delegation from Paris. Estimates have been presented that 69 vessels under construction in the participating countries on March 31, 1947 were duplications of vessels in long supply here. The answer of the CEEC has been that the new construction is necessary to restore the balance of specialized vessel types and that the surplus American vessels are not acceptable substitutes for the new vessels in demand. As one example, the new European tramps, which appear to be comparable with our surplus Liberties, are predominantly Diesel-powered. Other new vessels are intended to meet special draft requirements, and so on. The specifications of all the vessels under construction in British yards as of August 25, 1947 make it clear that in practically all cases there are at least minor differences from the specifications of American ships in surplus supply. But these differences do not justify the rejection of all substitutions of our surplus ships. Neither in Paris nor Washington have the European

¹ As of June 30, 1947 the Maritime Commission had approved sales applications for the participating nations on 670 vessels of 6.9 million deadweight tons, and 615 vessels of this total had actually been delivered on that date.

maritime representatives shown much disposition to look upon the next four years as an emergency in which means must be contrived to make do with the facilities we have at our disposal rather than to embark on longer-term building program. In fairness to the Paris planners it must be admitted that our ship sales policy has not encouraged the European nations to expect any further sales of our war-built vessels in appreciable quantities.

The passenger vessel construction program underscores the overall objection to a large European new building plan. Only one large strictly passenger type ship of more than 20,000 gross tons is now under construction in the yards of the participating nations. This vessel is Cunard's *Caronia* which is somewhat larger than our *America*, the only large luxury liner in our entire fleet. It is significant in this connection that for more than a year not a single passenger ship has been placed under construction in our own yards, a temporary national policy dictated in part by the scarcity of critical materials. Furthermore, the British have under construction for their own account nine large combination vessels with passenger capacity ranging from a low of 250 to a high of 1,800. In our own modest passenger fleet such vessels would be classified with our best luxury liners.

In one important respect the European construction program may prove to be seriously deficient. The threatened world shortage of tankers, to say nothing of the tanker deficit of the 16 countries, raises the question whether it would not be desirable to shift some of the shipyard activity to bulk petroleum carriers. This point is further discussed in a later section of our report.

IV. Dry-Cargo Requirements and Availabilities

The dry-cargo shipping problem in the Marshall Plan is not one of scarcity. There are today, and as far ahead as can be forecast, more dry-cargo vessels available than the world can conceivably employ. Since the midyear large numbers of active American flag bulk carriers have been unable to find employment, reflecting the more acute phase of the surplus position which began to show itself earlier this year. On October 1 there were 1,000 dry-cargo vessels in our laid-up fleet.

The participation of United States Government owned dry-cargo tonnage in the overseas programs will bear watching. About 12 million dead-weight tons of Government ships, or one-fifth of the active world total under all flags, are still out on bareboat charter to United States citizen operators. In declining numbers these vessels will be needed during a major part of the Marshall period, but it is significant that the legal authority of the Maritime Commission to charter them will expire on March 1, 1948. Since no substantial number of these vessels is likely to be purchased by citizens or foreigners, the urgent necessity of extending the chartering authority is clear.

The 16 nations requirement of tonnage in continuous employment on all world trade routes has been developed from the Paris report as follows:

Table 4.—Dry-Cargo Requirements of Participating

[In millions of deadweight tons]

	Nondollar tonnage	Dollar tonnage foreign flag	Dollar tonnage United States flag ¹	Total tonnage required
1947.....	35.5	1.4	11.6	48.5
1948.....	40.2	1.2	9.1	50.5
1949.....	42.8	1.6	5.6	50.0
1950.....	45.0	.7	3.8	49.5
1951.....	47.3	.5	1.7	49.5

¹ Includes small number of Canadian bareboats.

The tonnage requirements estimates appear to be on the high side. In the complete absence of any loading area break-down, however, we are reluctant to substitute our own views. In any case, the important point is that dollar ships are treated as the marginal tonnage in the Paris analysis. Only the slightest cut in the over-all requirements would mean the elimination of the demand for dollar tonnage.

In the Paris projection, the drop in the demand for American tramps plays the major role. The demand for our tramps in 1951, for example, is assumed to be zero as compared with the 1947 demand of 7.5 million deadweight tons. A sharp drop in this category of American tonnage has long been expected by those acquainted with the development of our post-war tramp fleet. The North Atlantic coal movement, which represents the major demand for our tramps, must ultimately decline and, as foreign nations come into possession of progressively larger tramp fleets which can be operated well below our costs, the United States flag tramps will be hard put to it to compete for the dwindling volume of bulk cargoes. Presumably because these facts appeared self-evident, the Paris report wasted no space in amplification.

As our future maritime prospects come into clearer focus, however, it becomes less obvious that we can afford to allow our tramp fleet to disappear. The Maritime Commission estimates of our normal fleet have tended to approximate 11 million deadweight tons. The components of these estimates have been tankers and overseas liners, which together have totaled about 9.0 million tons, and the dry-cargo coast-wise and intercoastal tonnage which has been estimated at approximately 2.0 million deadweight tons. Unfortunately for our maritime position, however, the possibility of maintaining a domestic fleet at anything like 2.0 million deadweight tons appears remote pending a correction of certain acute problems which limit the return of this all-important segment of our shipping industry to its former importance. The pessimistic outlook for the domestic shipping industry carries serious national defense implications because of the ready availability of the ships in emergencies. Whether anything can be done to offset the loss of the domestic fleet potential is by no means certain, but a small tramp fleet appears at the moment to be the only possibility of partial assistance.

On the assumption that we would be willing to permit our tramp fleet on the North Atlantic to disappear, the following would represent the total dollar payments by the 16 countries for dry-cargo shipping services as calculated on the basis of the Paris report:

Table 5.—Analysis of Projected Gross Dollar Freight Costs by Type of Recipient

[In millions of dollars]

	United States liners	United States tramps	Foreign flag vessels	Miscellaneous dollar freights	Total dollar freights
1948-----	\$102	\$329	\$63	\$7	\$501
1949-----	102	167	84	3	356
1950-----	102	89	36	2	229
1951-----	102	-----	26	-----	128
	408	585	209	12	1,214

These prospectively large dollar freight outlays have stirred up considerable controversy in this country. Before judging the over-all dollar costs, however, two important points should be noted. For one thing, we question the prospectively large dollar outlays on foreign flag tonnage and certainly would not provide for such outlays in the Marshall Plan. Secondly, the dollar freight expenditures on United States liners must be removed from the area of discussion if we are to adhere to our policy of maintaining a merchant marine consistent with our minimum national defense needs. On a weight basis the assumed liner cargoes to be carried by vessels of all flags are not far from the prewar normal level. Any tampering with our participation in these trades at this juncture might be fatal to our longer-term objectives in the European liner trades.

It remains to discuss the 585 million dollars estimated for expenditure on United States flag tramps plus 100 million dollars more which might be required as a result of our suggested policy of no dollar freights for foreign flag ships. The dollar freights on tramps were calculated by Paris on the basis of an average rate of \$12 per ton, a rate which actually prevailed early this year before the break in the voyage charter market but one which cannot reasonably be used as an index of the future. Using a more likely average rate of \$9 per ton, the prospective dollar freight cost on tramps would be reduced from 685 to 514 million dollars. Furthermore, while there is a reasonable probability that tramp cargoes will reach the target levels in 1948, we doubt that such will be the case in following years. The total dollar tramp bill is therefore likely to come closer to 400 million dollars, indicating the prospects of gross dollar freights for tramps and liners combined of only 800 million dollars.

In considering the possibility of dollar freight savings through the transfer of additional American vessels to the sixteen nations, we should bear in mind that the gross dollar freight data are misleading. Even on the assumption that such transfers were to be outright grants-in-aid, a maximum of only 75 percent of the gross dollar freights would be saved by the participating nations. Since the vessels would presumably remain in the dollar trades, they would continue to disburse dollars for fuel, stores, and other items purchased in American ports. To the American taxpayer the dollar savings would be even less. On the transferred vessels we would lose income taxes now collected by the Treasury, charter hire now collected by the Maritime Commission and earnings recaptures also collected by the Maritime Commission under the terms of the bareboat charter. Only the charter hire, which would probably exceed 15 percent of the gross freight, can be estimated

with close accuracy, but it is safe to say that the net savings to American taxpayers would approximate 50 percent of the gross freights on any tramps transferred to the sixteen nations on an outright grant basis.

Considerations such as the above should not, however, rule out the resumption of United States dry-cargo vessel transfers to Europe. The paradox of a boom level of European vessel construction and a surplus of usable American ships clearly calls for intelligent examination. It is pointless for Europe to be building up a world surplus of vessels at this juncture. It would be equally pointless for us to transfer a large number of dry-cargo vessels while a European surplus is being built up. But, if the sixteen nations could be induced to curtail their new vessel construction commensurately with an agreed transfer of war-built dry-cargo vessels, it would be a major contribution to the over-all Marshall Plan.¹ Such reciprocal concessions would not be designed to change the projected dollar freight costs for the recipient nations. Their real purpose would be one of conserving resources in scarce supply through the rational utilization of existing surpluses.

V. Tanker Requirements and Availabilities

The Paris report shows a substantial and growing tanker deficit for the participating nations. As amended by discussions in Washington this deficit appears to be as follows:

Table 6.—Tanker Requirements of Participating Countries

[In millions of deadweight tons and dollars]

	Total tonnage requirements	Provided by nation's own vessels	Provided by other participating nations	Tonnage required from United States	Cost of tonnage from United States
1947.....	13.6	9.6	2.2	1.8	\$110.
1948 ¹	15.3	11.2	2.6	1.5	95.
1949.....	16.7	12.2	2.8	1.7	100.
1950.....	18.4	13.2	3.0	2.2	135.
1951.....	19.7	13.8	3.1	2.8	180.

¹ Revised.

The growing tanker deficit of the participating nations is doubly unfortunate. For one thing, it represents a dollar drain which, by 1951, will be greater than the dollar costs of dry-cargo freights to the participating nations. Secondly, the American oil industry has comparatively little interest in maintaining American flag tankers in foreign trades, particularly in the nondollar areas. Before the war our tankers were of negligible importance in the foreign trades. Today they are important only because of Europe's shortage of tanker tonnage. Our cost disadvantages in tanker operations are such that we should obviously leave this field largely to European operators, even if there were no dollar emergency. Our coastwise and intercoastal tanker trades, from which foreign operators are excluded by law, together with the tanker fleet employed by the Navy, provide us with an active tanker fleet nucleus for national defense purposes.

¹ Insistence on commensurate construction cuts as a condition of all vessel sales would, in theory, prevent the participating nations from reaching their full fleet targets by 1951 since they are counting on a small number of vessel purchases as well as new construction. In practice, however, the scrapping rate could be modified to permit attainment of the fleet objectives.

Since the stated tanker requirements of the participating nations appear to be in line with the petroleum import needs of the area, the dollar drain could only be stopped by a substantial addition to the European tanker fleets. If, for example, these fleets could be increased by 2.5 million deadweight tons above the currently projected level for 1951, the dollar drain would be all but eliminated by that year. Following is an outline of one plan which might be adopted to effect the desired goal:

(1) After the distribution of all the T2 tankers now owned by the Government, there will remain a few special types of war-built tankers available to the participating nations under the Marshall Plan. The most likely candidates are some 60 tankers (Z-ET1 or Liberty), most of which are now in lay-up. The Maritime Commission does not have authority to sell the Liberty tankers to foreigners under the Ship Sales Act of 1946, and, since these vessels require almost the same manning scale with 20 percent less speed and almost 40 percent less carrying capacity than the T2's, the European nations have shown little interest. If all the available special war-built types could be transferred to the Marshall countries, either by sale at attractive prices or by attractive bareboat charter arrangements, approximately 600,000 deadweight tons would be added to the Paris tanker projection, and the Marshall Nations would be saved approximately 100 million dollars over the 4-year period. In this connection, the Maritime Commission has no authority to charter tankers under the Ship Sales Act of 1946.

(2) With the concurrence of the military authorities, certain of our older tankers or even T2 types might be released for transfer to the 16 countries as the result of a program of new tanker construction by the American oil companies in American yards. Some American oil companies have drawn up plans for the new large, fast tanker types. Since the manning scales on the larger, faster tankers would not be much different from the T2 manning scale, a new building program of this type might be a partial answer to America's operating cost problem in relation to foreign competition. If 500,000 tons could be transferred in this way, a savings of about 75 million dollars might be effected in the latter part of the Marshall Period.

(3) Another possibility would be to increase the tanker construction program of the 16 nations by about 1.4 million deadweight tons. The existing tanker construction program is about 4.2 million deadweight tons out of the over-all program of 15.5 million tons. Since it would be difficult if not impossible for the 16 nations to expand their over-all program even with sufficient steel availabilities, it might be wise to substitute tanker construction for dry-cargo construction. Such a move would not mean any net savings in dollars but would mean the transfer of resources from a surplus area to an area of threatening shortages.

In attempting to find a way of providing the 16 countries with sufficient nondollar tanker tonnage, we should not overlook a much more basic problem. While the placing of all our war-built tankers in active service will ease the existing oil shipping shortage, the European tanker construction program alone is not likely to be sufficient to meet the growing world petroleum demand. All the available evi-

dence points to the desirability of inaugurating a United States construction program in order to avoid a world tanker deficit before the end of the Marshall period. Such a program could be coordinated with the requirements of our Navy for defense purposes.

VI. Recommendations

A. Dry Cargo Shipping

1. Although the world supply of dry-cargo shipping is far in excess of any conceivable world requirements, a major part of the available ships will remain under the ownership of the United States Government. It is therefore important that the Congress should extend the authority of the Maritime Commission to bareboat charter these vessels at least one more year beyond the existing deadline of March 1, 1948.

2. To promote the maximum flexibility in handling the Marshall Plan bulk cargoes and to avoid the cost of moving bulk carriers in and out of the laid-up fleet, a working reserve of at least 100 Liberty vessels should be maintained for ready availability. If the seasonal decline of bulk loadings this winter should be particularly acute, it may be advisable to withhold an even larger number of vessels from the laid-up fleet.

3. Sales of our surplus war-built vessels should be made to the 16 nations and, wherever practicable, these vessels should be substituted for new vessels to be constructed in Europe. The European construction program represents an obvious waste of resources in view of our large surplus of dry-cargo vessels. Sale of our surplus dry-cargo vessels should be contingent on a commensurate reduction in the forward construction programs in Europe.

4. In any case the dry-cargo construction program should be carefully weighed in relation to the steel program and the over-all question of financing the recovery of the Marshall Countries.

B. Tankers

1. The Government-owned Liberty tanker types should be transferred to the 16 nations under the Marshall Plan. As an interim measure, the Congress should take steps necessary to permit immediate transfer of these tankers.

2. The Congress should also extend the general agency operation beyond March 1, 1948, in order to meet any possible tanker operating contingency.

3. The foreign tanker construction programs should be encouraged at the expense of dry cargo construction programs.

4. In view of the threatened worldwide deficit of tankers and in view of the need for stimulating some measure of shipbuilding in our own yards, American oil companies should be encouraged to inaugurate new construction programs for large, fast tankers. Such programs would release our older tanker types for sale to foreigners.

5. Every consideration should be given to a construction program of fast, specialized types for our Navy. These tankers would release to commercial services some of the vessels now employed by the Navy.

VII. Inland Transport in Europe

A. Adequacy of Inland Transport Facilities Before the War

The chief inland transport facilities in Europe before the war were railways, inland waterways and, to a lesser extent, roads. There was some passenger travel by air but carriage of freight by air was negligible. The facilities available for European inland transport were more than adequate to normal peacetime traffic. This excess of carrying capacity was partly due to railway maintenance for military needs.

In an effort to use this surplus capacity the governments, at least in continental Europe where the railways are state owned, tended to encourage carriage by rail instead of by road or inland waterway. None the less inland waterway transport carried a large proportion of bulk cargo transported.

Long-distance freight carriers by road had, in Great Britain, begun to play an important part but, on the Continent this development was prevented both by the competition of the railways and by passport, customs, and other formalities at frontiers. The condition of the highway networks, however, was good, again partly for reasons of military security. The use of inter-urban and rural buses varied from country to country, being relatively large in the United Kingdom, for instance, and small in Belgium because of the Belgian light railway network. Automobile clubs were permitted to guarantee their members in foreign countries, which made it possible for business men and others to use their cars throughout Europe with a minimum of red tape.

The ports were in active competition with one another so that, even despite German efforts just before the war to divert traffic to German ports to conserve foreign exchange, the division of traffic between ports followed on the whole the pattern dictated by the greatest economy of means.

B. Deterioration Due to the War

The war completely changed the situation. Transport facilities were primary military targets, and movable equipment, such as freight cars, trucks, barges, tugs, and port cranes, was taken as booty by the Germans on a large scale. Of 2 million freight cars, 300,000 were destroyed and 800,000 damaged. On the continent, serviceable locomotive stocks were reduced in general to about a third of prewar inventories and, in Greece, to a tenth. Of the Rhine fleet, 35 percent was lost and 15 percent badly damaged. Ports, bridges, freight yards, stations, dams, and locks were extensively destroyed. In France 7,000 and in Belgium 1,120 highway bridges were knocked out.

During the war normal replacement of worn-out equipment and proper repair of damaged equipment were impossible. This turned out to have more lasting consequences than the outright destruction. Rolling stock and barges and tugs were dispersed by the enemy and thus were, and still are, in large numbers outside their territory of origin. There was therefore little interest in repairing the damaged portion and, indeed, repairs were difficult if not impossible because of lack of the proper spare parts and the required skilled personnel.

Normal interchange of freight cars between railway systems requires that the stock of each system be clearly identifiable and be largely located on its home system. But, because of the dispersion and

relettering of cars carried out by the Germans, this was not the case in Continental Europe after the war. The different national railway systems were at first reduced to car-for-car exchanges at frontier points to prevent unbalanced flow of cars. Very shortly, however, a clearing house was cooperatively set up which planned rational compensation, within 2 weeks of the incidence of a state of unbalance, and also redressed some of the glaring inequities in inventories between countries that appeared at the end of the war. This procedure, however, could do little towards returning cars to their home systems, and therefore did not much improve the maintenance and repair situation.

In all the countries except Greece, heroic efforts have made possible the reopening of the railways, waterways, roads, and ports to traffic, though this has often had to be done at the expense of other sectors of economic life, such as housing. The disturbed state of Greece has prevented the repair of its railway system which was, during the war, divided into disconnected fragments by extensive demolitions.

The problems posed by over-age equipment, dispersion of stock, and large inventories of stock immobilized for repair remain acute.

In this critical situation an added burden has been placed on the transport facilities by the abnormal political and currency situations in Europe. Germany was divided into four (now three) zones under military control. German currency is not quoted in terms of other currencies. Most other countries of Europe have had strictly to conserve foreign exchange.

As a result it has been impossible for the Rhine to be effectively used between the Low Countries and Germany and international carriage by truck into and out of Germany still requires special negotiation for such services. Any international freight or passenger service by rail can only be set up after elaborate negotiations as to the eventual payment of balances and, if negotiations break down, long detours are necessitated around the area affected.

Trade no longer flows in normal channels but must, because of the currency situation, be governed by bilateral agreements between countries. Thus, for instance, for political reasons Austria, which normally receives its coal from Silesia, was, after the war, supplied from the Ruhr. To compensate for the shortage thus caused, the French, who normally receive coal from the Ruhr, signed a bilateral agreement with Poland by which they receive coal from Silesia in exchange for manufactured products. This cross haulage of coal absorbed last spring approximately an extra 3,700 tons of coal for locomotives (12 percent of that carried), 5,300 coal cars, 230 locomotives, and 650 engineers and firemen.

That the transport systems of Europe were able, under all their burdens, to perform their functions at all was due to the generally low level of economic activity and of the standard of life in Europe after the war, which much reduced the required load.

C. The Situation in the Fall of 1946 and the Winter of 1946-47

Because of the harvests, the autumn is the season in which most freight has to be carried. In freezing weather the operation of transport equipment is most difficult. If a transport system can, through those two seasons, carry the load required of it, no anxiety need be felt for spring and summer.

The transport systems of Europe barely escaped a serious breakdown in the fall of 1946 and the severe winter of 1946-47. On January 1, 1947, the transport situation was critical. But transport did not collapse. The bare minimum necessities of life were carried, but no more. And a relatively small additional burden would have caused chaos.

In September 1946 an acute freight-car shortage developed in the United States Zone of Germany. In order to obtain the best use of their inadequate facilities, the transport technicians had, by that time, developed an efficient system of mutual aid. Therefore, when the Zone authorities made it known that they were so short of cars that they would soon be unable to carry transit traffic across the Zone, the railway systems of other countries diverted 11,000 cars to that traffic. This was done by increasing the load on the upper Rhine and its tributaries and canals and by planning to move 21,000 tons via the Elbe despite local difficulties. That particular crisis was surmounted, but the strain of the transport resources had been such that they proved inadequate to a complete solution of the next problem.

In October the good potato and sugar beet crops placed a heavy task on the transport systems. In particular, Czechoslovakia had available 200,000 tons of potatoes for export to the West. As potatoes are subject to freezing in transit, the transport authorities cooperatively set about the task of moving them before frost, which, among other things, involved finding 3,000 extra freight cars.

The car shortage in Germany was an initial handicap and, when operations had to be discontinued late in December, only 60 percent had been moved; 40 percent of the crop had to be left to undergo the risk of winter storage in the open.

In March and April arrangements were made to move the remaining potatoes. But when it was possible to examine them, it was found that a large proportion had spoiled.

Because of the freezing of the inland waterways there was a crisis in the distribution of coal from the Ruhr. At a time when coal was desperately needed, it was being mined at the rate of 15,000 tons a day more than could be moved (end of January).

Austria was so hard hit by the coal shortage that transit traffic could only be carried if the neighboring countries supplied the locomotive coal. This necessitated long and wasteful detours of international traffic around Austria. Passenger traffic in all countries had severely to be curtailed and only essential freight services could be maintained while the crisis lasted.

The output of the Ruhr mines has been increasing but the competent authorities are very much afraid that a shortage of cars will again this winter make it impossible to carry away the coal that is brought to the surface. Even if an agreement is reached increasing the use of the Rhine waterway system to carry coal, the waterways will probably be frozen during the critical winter months, which, since transport has not been sufficient for adequate stock piling during the summer, would again have serious effects.

The ports of Hamburg and Bremen, gateways to Germany, were congested in January and February 1947 because of lack of inland transport. In order that incoming grain for Germany could be carried, 100,000 tons of minerals had to be stored at the ports. And in

March it was only possible to accept 60 percent of the international traffic which was offered for carriage.

Transport experts in Europe are looking forward with apprehension to the winter of 1947-48 for, though the stocks of serviceable freight cars in Western Europe (excluding the United Kingdom) will probably have increased from 960,000 to 970,000, the number of serviceable cars in Germany will have fallen, perhaps by as much as 7 percent.

VIII. The Marshall Plan Estimates

A. Introduction

As no equipment sent from outside Europe as part of the Marshall Plan can arrive in time to be of help in the winter of 1947-48, it is now necessary to try to estimate whether any transport material from outside Europe will be needed in the countries of Western Europe, in the fall of 1948. This can best be done by starting with the situation in the winter of 1946-47, whose critical nature has just been explained.

The technical committee on inland transport of the CEEC could not, in the time it had at its disposal to prepare estimates, give complete justification of its estimates. The United States Government has asked for more data. But if equipment is needed for the winter of 1948-49 it must be ordered soon. So the urgency of the situation requires that some recommendation must be made now.

The Committee has therefore decided to make recommendations for the year 1948, but to leave for study by the appropriate authorities, when further data are available, the question of what shall be done in the field of inland transport equipment for the years 1949-51.

B. Volume of Traffic

The following table shows the metric tonnages the Paris Countries plan to carry on the rail and inland waterway systems of Western Europe, excluding Germany, together with some comparative figures compiled from various sources.¹

Table 7.—Estimated Volume of Traffic in Participating Countries With Recent Figures for Comparison

[In millions of metric tons]

	1938	1946	1947	1948	1949	1950	1951
Railways.....	812	670	704	738	802	852	854
Inland waterways.....	150			122	143	164	174
Total.....	962			860	945	1,016	1,028
Percent by water.....	15.5			14	15	16	17
Port traffic.....	413			335	375	407	428

It is not at present known how tonnages shown for 1948-51 were arrived at. The British estimates are based on the British industrial plan; the French rail tonnages result from an adjustment of the Monnet plan forecasts; the others are probably based on extrapolation from prewar.

These figures refer to tons of freight loaded and thus probably exaggerate the increase in traffic, since, as economic dislocations decrease,

¹ Because it submitted no data on inland transport, Iceland is excluded.

average length of hauls ought also to decrease. Thus, in effect, it is not expected that there will be a large increase in traffic. It appears, therefore, that the Paris countries have not exaggerated the traffic needs for which adequate equipment must be planned.

It is obvious from table 7 that traffic by road has not been allowed for at all, and it is hoped that the revised data will show that a fair share of the load is assigned to this mode of carriage. A maximum utilization of waterways might increase the share carried in barges, but it must be remembered that there is still much political controversy about the waterways and that, in any case, the waterways are likely to be out of action due to low water, freezing, or high water for part of each year.

C. Freight Cars

1. *Background of the Paris program.*—The only large request for finished inland transport equipment from outside Europe made by the Paris countries is for 103,000 freight cars. Before the war Europe was an exporter of rolling stock. It is therefore reasonable to examine this request in some detail.

During their invasion and subsequent occupation of Europe, the Germans pooled the freight cars of Europe and used them for military needs, without regard to country of origin. The Germans also relettered and renumbered many of the cars of the Allied nations, and entered them in the books of the *Deutsche Reichsbahn* as war booty.

When the Allies invaded Europe in their turn, they also pooled freight cars and further scrambled the inventories. The Allies repainted many Axis cars found in their territories and added them to their inventories.

Each country therefore has at present, besides its own cars, a miscellaneous collection of other cars which it must use. Some of these still have their original markings, others have been so often relettered that it requires an expert, using clues such as design of axle boxes and brake gear, to determine the country of origin. This confusion has given rise to claims and counterclaims.

The allies claim that all cars identifiable as theirs should be returned from Germany and that German cars in allied territory are war booty (this claim is for "restitution");

The occupation authorities, who are responsible for keeping enough cars in Germany to run its economy, and supply the military forces, resist these claims and make the counterclaim that the Allies should give up or pay for the United States transportation corps cars they are using. Therefore, pending a settlement of these claims, stocks remain mixed up, which makes difficult exchanges at frontiers, and makes the car repair problem all but impossible to solve.

2. *Program proposed by the Paris countries.*—a. *Requirements.*—Unfortunately the Allied claims just described are reflected in the estimates they have made of the new freight cars they will require in 1948–51. Each country has tacitly assumed that it will get its cars back from Germany, and therefore that Germany will require a very large addition to its stock of cars. Table 8 below illustrates this by comparing the new cars required by the Bizone as stated by the Paris countries, and by the Bizonal authorities.

Table 8.—New Freight Cars Required by the Anglo-American Zone of Germany*[In thousands of cars]*

	1947	1948	1949	1950	1951	Total
Paris countries' estimate.....	-----	66	66	67	66	265
Bizone estimate.....	28	13	44	58	34	175
Difference.....	-----	-----	-----	-----	-----	90

The difference of 90,000 cars roughly represents cars in the Bizone of Germany which the Paris countries think belong to them. It is not the Paris countries' intention that 365,000 new cars should be delivered to Germany, but that 90,000 should be delivered to the Paris countries themselves in lieu of their stock still in Germany or in exchange for old German cars which they hold. This plan would avoid leaving Germany with a newer inventory than its neighbors (as happened after 1919) which it might again use to wage war.

In addition to making this indirect claim to 90,000 cars, the Paris countries expressed the need for new equipment as shown in the first line of table 9.

Table 9.—Requirements of New Freight Cars as Stated by the Paris Conference*[In thousands of cars]*

	1948	1949	1950	1951	Total
Paris countries.....	93	132	123	111	459
Bizone, Germany.....	66	66	67	66	265
Total.....	159	198	190	177	724

The requirements of the French Zone of Germany are included in the requirements of the Paris countries.

b. Production.—The indigenous production planned in 1948–51 is 621,000 freight cars, leaving a deficit of 103,000 cars; 47,000 in 1948; 42,000 in 1949; and 14,000 in 1950. This deficit the Paris countries hope to meet by importation under the Marshall Plan. As is explained below, the production program is overly optimistic which increases the deficit.

Table 10 shows, for 1948 and for the total period 1948–51, how the 16 nations plan that the new car requirements they stated for themselves and western Germany (see table 9) should be met.

Table 10.—CEEC Proposal for Meeting Freight-Car Requirements*[In thousands of cars]*

	1948	Total 1948–51
A. 16 country gross requirements.....	93	459
B. Production planned in 16 countries.....	112	553
C. Surplus for export to western Germany (B–A).....	19	124
D. Production assumed for western Germany.....	None	48
E. Gross requirements of western Germany as stated by 16 countries.....	66	265
F. Deficit to be made up by import of cars from America (E–C–D).....	47	103

It should be noticed that the sixteen nations plan to export 124,000 cars to Western Germany, 19,000 of them in 1948. For the part of

these destined for the Anglo-American Zone they would, presumably, expect payment in dollars, and as explained above, it is possible that they hope that they might eventually receive most of those cars back from Germany in lieu of the restitution of old cars of their own now located in Germany.

The Paris countries have taken the first steps towards the standardization of freight car design by referring the questions to the International Technical Standards Conference (*Unité Technique*) with the request that it produce agreed designs within 3 months. The United States Government should press for agreement on this matter in the time set.

Within the framework of existing bilateral trade agreements, the countries are planning to purchase equipment from one another, passenger train cars and street cars from Italy, electric locomotives from Italy and Switzerland, port equipment from the United Kingdom, etc. The Committee trusts that further arrangements of this sort will be made.

The nations can also help one another by sharing repair capacity: thus the French Zone of Germany intends to ask for help in its locomotive repair program. Belgium and Switzerland are already repairing cars for the Zone. Czechoslovakia is repairing cars for the Bizone.

3. *Analysis of the freight car program.*—The intrusion of the restitution question into a technical study of the needs for new cars is most unfortunate. It was, no doubt, dictated by the desire of the countries not to appear to relinquish any of their claims. In what follows, no account will be taken of transfers for restitution because it is assumed that these questions will not be settled in time to affect the situation in the winter of 1948–49.

The requirement for 175,000 new cars, submitted by the Bizonal authorities would, by 1951, bring West German car stocks up to about 450,000 serviceable cars, which compares with 355,000 before the war. Because there is now a frontier between the Western and Soviet Zones of Germany and because of other current operating difficulties, conditions in Germany now cannot be directly compared to those before the war. Nonetheless, the figure of 175,000 new cars is high.

There is, however, as was previously shown, an immediate need for freight cars in Western Germany. Hence, it is the Bizone estimates for the years 1949–51 which are too high (see table 8).

The requirement of 459 thousand new cars for the Paris countries themselves may next be considered. In the cases of France, Italy, Norway and Denmark, the figures of new freight car requirements were not at all based on a computation of cars needed to carry anticipated traffic but were arbitrarily set equal to the productive capacity for freight cars in these countries. Even when it is remembered that each country hopes for an increment from restitution, the procedure is highly unsatisfactory as an estimate of needs.

This Committee must, therefore either ignore the obviously important questions of freight car needs or arrive, as best it can, at its own estimate of needs. Because it is probable that requirements for 1948–49 will be urgent, the Committee has felt that it must make a rough appraisal of the probable stocks of serviceable freight cars in Europe at the end of 1948 and compare this with the stocks available in the critical winter of 1946–47, making the assumption that at least as much freight must be carried in the later as in the earlier period.

If the requirements for new freight cars exceed indigenous production, the need for cars in Europe should be weighed against the pressing need at home.

It is to be hoped that European figures which really indicate the extent of needs for freight cars will be available in time to permit planning for the years 1949-51 on a sounder basis.

A study, based on the freight car inventories on 1 January 1947 of 15 countries (the 16 less Iceland) plus Western Germany and on data available to the United States Government as to new production in Europe in 1947, importation into Europe in 1947, and expected new production in Europe in 1948, indicates that without American aid in 1948 the countries may be expected to have, on 1 January 1949, about 2.15 million serviceable freight cars (as against 2.117 million on 1 January 1947) and about 254,000 under or awaiting repair (as against 350,000 on 1 January 1947).

This estimate assumes a production of about 89,000 cars in Europe in 1948 instead of the 112,000 given by the countries themselves (table 10) because, as explained below, it is thought that the Paris Countries have overestimated their capacities for production.

The figures estimated for 1949 assume that about 238,000 cars are scrapped in 1947 and 1948, i. e., at a rate of about 5 percent a year. This increase over the normal rate of 3 percent is necessary to begin to make up arrears of replacement left over from the war years.

Cars under repair are assumed to be reduced at a rate which would in 1951 bring about only the normal 8 percent in bad order.

In general, therefore, the serviceable part has increased numerically by 3 percent and has also improved in quality.

The situation of Western Germany at the beginning of 1949 has, on the contrary deteriorated. Even if bad order stocks are reduced from 80,000 to 48,000 in 2 years, so much scrapping is required that the serviceable park falls from 295,000 on 1 January 1947 to 275,000 on 1 January 1949. And, as was shown above, the transport situation in Western Germany was critical last winter and is becoming critical again.

The other European countries are most unlikely to have a surplus of new cars from their own production to meet German needs and, in any case, regard Germany as a source rather than as a recipient of freight cars. Because it seems improbable that outstanding restitution questions will be settled before 1949, it is unlikely that the Allied countries will, before then, be the beneficiaries of unbalanced exchanges of cars with Germany. Hence, the Committee holds that it is unreasonable to expect new cars to be supplied to Germany by the Paris countries.

The Committee believes that the requirement of 41,000 new cars before 1949 stated by the military occupation authorities is a reasonable one. This would bring the stock of serviceable cars in Germany up to about 316,000 for the winter of 1948-49, which, in the light of the past experience which has been described, seems minimal for safety.

4. *The role of sound management.*—The acute shortage of new freight cars in the United States has been described above. Hence the export in 1948 of 41,000 cars of continental model, equivalent to about 20,000 cars of United States type, might jeopardize the carriage to the ports of the export traffic required by the Marshall Plan. It

is, therefore, important to investigate what measures of self help can be taken by the Bizone and what help the other West European countries can give the Bizone in surmounting the freight car shortage. The rest of Europe is vitally concerned in the situation because so much of the transit traffic of interest to it must pass through the Bizone.

a. The repair problem.—It is obviously the large number of bad order cars which is producing the shortage of serviceable stock. The inability of the Bizone to reduce this back-log rapidly enough has two causes, the heterogeneity of the stocks in Germany, and the shortage of repair facilities.

i. Heterogeneity of Stocks.—The scattered stocks must be returned to their home systems and then kept concentrated by universally reintroducing the RIV car exchange arrangements, similar to those in use between American railroads. This cannot be done until the country of origin of the relettered cars is determined. This technical operation is being carried out under the auspices of the Economic Commission for Europe of the United Nations. Once the country of origin is determined, questions of ownership can be broached. They are much complicated by the restitution claims. The Council of the European Central Inland Transport Organization (ECITO) has recommended that pending adjudication of claims the nations enter into bilateral agreements to sort out their inventories so that the RIV can be reapplied and maintenance and repair can proceed in an orderly manner. Although it seems unduly optimistic to hope for quick relief from the outcome of negotiations of this far-reaching nature, the United States should encourage and cooperate in the creation of such bilateral agreements.

ii. Lack of Repair Facilities.—The shortage of repair facilities is one facet of the German industrial situation. It is acute although new production of freight cars has been suspended in the Bizone until 1950 to permit concentrating on repair. Plants have been destroyed, workers are underfed, and steel is in short supply. One reason for the shortage of steel is that not enough cars are allocated to the short hauls of coal in the Ruhr required to bring steel production to the level planned. In view of the shortage of steel for car repairs, the Committee feels that this policy is short-sighted.

b. Maldistribution of traffic.—The shortage of cars is aggravated by the maladjustment in the distribution of the traffic which was briefly described earlier in this report.

It is worth while here to discuss in more detail two ways in which the overburdened railways might be relieved.

The first is greater use of the lower Rhine, the second greater use of road transport. The Paris truck production program will be discussed in this context.

i. Inadequate use of the Rhine.—Probably the worst of the obstacles to the free movement of goods and carriers is the fiscal one. Clearing arrangements between neighboring countries whose currencies are not quoted in terms of one another are gradually being worked out, usually by fixing quotations for transport purposes only and trying to arrange that, on the basis of these quotations, accounts will never show an appreciable balance in favor of either country.

There is, however, a particularly unfortunate case in which no agreement has yet been worked out. The Rhine waterway system,

via the Low Countries ports, is the best carrier for bulk cargo from overseas to southwestern Germany. The Rhine system also serves the Ruhr coal basin. Currency difficulties at present prevent its use in Germany by Belgian and Netherlands barges and crews, and in the Low Countries by German barges and crews.

The Low Countries and the Bizone must conserve dollars. Hence the Bizone uses Bremen and Hamburg, where it can pay in marks, for imports to southwest Germany causing the cross-haulage of goods and also severe unemployment in Antwerp and Rotterdam. Also to conserve dollars in the Bizone, exports of coal from the Ruhr must be paid for in dollars which produces a heavy drain of dollars from the Low Countries.

Therefore the Low Countries do not wish to open their part of the Rhine system to navigation by German crews unless the Bizone will permit them to earn dollars and employ their workers by promising to ship about 1.7 million tons a year of goods to Germany through Antwerp and Rotterdam.

Although the use of Antwerp and Rotterdam would produce an overall saving in carriage, it would increase the dollar expenditure of the Bizone by about a million dollars a year, which the Bizone feels it cannot afford. Finally the Bizone refuses to open its waterways to Low Country barges until the Low Countries open theirs to German vessels.

So the absurd condition continues. There are idle barges and crews in the Low Countries and coal piles up in the Ruhr which might be carried by the Rhine waterway system. This coal is desperately needed by the economy of Europe.

The primary cause of this absurdity is the shortage of dollars in the Low Countries and in the Bizone. It is the intention of the Marshall Plan to alleviate such stringencies. This relief must clearly be offered not only to the 16 countries but also to Western Germany.

The Committee therefore recommends that both the Low Countries and the Bizone be urged to agree to make possible navigation of the Rhine waterway system by German vessels and crews in Low Countries territory and by Low Countries vessels and crews in German territory.

ii. Inadequate Use of Road Transport.—(1) *Barriers to Traffic.*—A barrier to the most economical use of the means of transport is rate discrimination. Rate structures discriminating against road and water haulage are often established by the governments to protect the railways, which they own. The rate structure of the railways themselves is, in part, responsible for this because they charge in proportion to the value of the goods to be carried rather than in proportion to what it costs to carry the goods. The trucks can, therefore, underbid for this high-value traffic and still make a profit. The railways unfairly retaliate by urging discriminatory legislation.

The French National Railways, however, have recently reviewed their rates on a fundamentally new plan. They never charge more than what is required to cover the cost of carriage, plus overhead expenses. They never charge less than the cost of carriage. Within this margin, they adjust their rates to carry their overhead and to meet competition as any business would do. They abandon all traffic which other forms of transport can carry more cheaply and thus do away with any necessity for unfair legislation.

The Committee recommends that the United States Government draw the attention of those responsible to cases of discriminatory rates which divert traffic from its normal course, and point out that such uneconomic use of means is not in accordance with the spirit of the Marshall plan.

In the field of international road transport, it is chiefly the lack of an international agreement regulating traffic which prevents road carriage from having sufficient freedom to play the role it should. Trucks and drivers can, in general, not cross frontiers, so that loads have often to be transferred at the frontier from one vehicle to another. One of the first tasks of the newly created Economic Commission for Europe of the United Nations is to arrange for a suitable international agreement. The United States should use its influence to promote such an agreement.

(2) *The Paris Truck Program.*—In 1946 there were about 1.7 million trucks registered in the 16 countries and Germany. Of these, 577,000 were in the United Kingdom and 166,000 in Germany. On the continent many were passenger cars pressed into service as trucks (in France about 225,000 converted passenger cars out of 619,500). It is estimated that half of the vehicles registered as trucks were 10 years old or more, and few of the rest were less than 5 years old.

Truck production in the United States is running far above prewar levels, the most serious limiting factor being steel, particularly sheet and strip. Demand for light trucks is still far in excess of supply but the industry is beginning to catch up with the backlog of domestic requirements for medium trucks. It would be difficult to meet any large additional demand for heavy trucks. A little over 20 percent of total production is being exported. To the extent that exports to the rest of the world are curtailed because of shortages of dollar resources or for other reasons, additional trucks could be made available to Europe.

In 1938 and 1946 the United States exported respectively 26,000 and 32,000 trucks, busses, and chassis to Western Europe, including parts for assembly. In 1938 approximately 220,000 trucks and busses were produced in Western Europe (76,000 in Germany and 105,000 in the United Kingdom). In 1946 about 230,000 were produced in Western Europe (146,000 in the United Kingdom, 65,700 in France, and an estimated 5,000 in Germany). This increase was, of course, at the expense of passenger automobile production.

It is planned to produce in Western Europe 1,175,000 trucks in 1948–51 to fill domestic needs, or about 294,000 per year, and to produce about 125,000 in all for export from Europe. It is estimated that of the 1.3 million new cars to be produced about 96,000 will be assembled from parts made in the United States. The performance in 1946 makes it reasonable to hope that the European production program may be carried out.

There is some doubt as to whether 294,000 trucks a year are enough to replace the over-age vehicles in the stock of 1.7 million, and at the same time to allow for an added use of long distance road haulage to relieve the railways, at least until their freight car repair and building programs can bear fruit. The answer to this question will have to await more detailed information about how much traffic can be diverted from rail to road.

Since busses are not mentioned in the CEEC report, it is presumed they are included under trucks.

The Paris countries have made no explicit provision for the importation of trucks, though the import of 96,000 in 4 years seems to be implied by their figures. They have made no provision for the production or importation of passenger automobiles. In 1946 about 24 thousand new passenger automobiles were exported from the United States to Western Europe (of which 1.8 thousand went to Switzerland and 1.1 thousand to Portugal, countries whose dollar position is relatively strong). The value of the new truck and passenger automobile exports from the United States in 1946 was about 25.5 million dollars.

The Committee considers that the new truck building program of Western Europe is not excessive and recommends that steel for it be made available, and that further consideration be given to the desirability of importing some finished trucks into Europe in 1948 and 1949 to relieve the strain on the railways. In any case, a movement of the magnitude of the recent imports of trucks into Western Europe is not likely to cease suddenly.

Since passenger automobile production is being curtailed in favor of trucks, there is sure to be a large European demand for passenger automobiles. Whether dollar exchange can be used by Europeans for this purpose is a policy question depending on whether or not the United States Government will use export controls to enforce the provisions of the Marshall Plan.

5. *Conclusion—Recommendation on the subject of freight cars.*—The Committee recognizes the acute shortage of freight cars in Western Europe and particularly in the Anglo-American zone in Germany. It feels strongly that the measures suggested in section 4 provide the proper and the only permanent solution to the problem. But its confidence that these measures can and will be taken fully enough and in time to relieve the situation by the fall of 1948 is not such that it is willing to count on them alone to avert a transport crisis in Germany in 1948-49.

Since, to be of use before the winter of 1948-49, new construction must begin very shortly, the Committee recommends that 20,000 freight cars (American equivalent 10,000) be produced in the United States for export to the Anglo-American Zone in 1948. The cost of these cars will be approximately 60 million dollars. This would enable Western Germany to face the winter of 1948-49 with a 7 per cent addition to its effective cars and would benefit the economy of all the European countries by making it less likely that there would be a break-down in coal distribution from the Ruhr.

The Committee further recommends that the authorities charged with the administration of the Marshall Plan maintain constant pressure on the Bizonal authorities and those of the participating countries to remove the obstructions to the rapid repair of freight cars and to the use of the Lower Rhine and of road transport as alternatives to rail carriage.

It has recently come to the attention of the Committee that Czechoslovakia may have available immediately production capacity for 300 to 400 coal cars per month. To the extent that cars from this source can be made available, German needs can be more nearly met.

In addition to the deficit in Germany, there will still be car short-

ages in other countries of Europe, such as the Netherlands and Austria, in 1949 because production in Europe is unlikely to reach expected levels. These can clearly not be made up by the United States. The Committee therefore recommends that the major producers of freight cars (Belgium, France, Italy, and the United Kingdom) stand ready to sell about 10,000 cars from their production in 1948 to other participating countries including Austria. This figure of 10,000 cars should be compared with the figure of 19,000 new cars the participating countries planned to deliver to Western Germany in 1948 (Table 10).

D. Other Items for Transport Equipment

1. *Locomotives*.—The requirements stated by the participating countries for new locomotives is 8,505, to which must be added 857 for the Anglo-American zone of Germany, and they assume that the total requirement can be met from European production.

There was an acute locomotive shortage in the British zone of Germany last winter which resulted in the cancellation of freight and passenger trains. The participating countries expect to produce 415 locomotives for Germany in 1948 and 590 in 1949. The bizonal demand for 843 steam and 14 electrical locomotives was urgent in 1947 so the Committee recommends that failures by European countries to reach their locomotives production targets should not disproportionately reduce deliveries to Germany.

2. *Railway passenger cars*.—The Paris countries show a total requirement of 24,300 new railway passenger cars for the years 1948-51 and a maximum production capacity of 21,700. They ask that 1,300 cars, or half the deficit, be imported. This demand is not vital to the economy of Western Europe so that, in view of the large backlog of unfilled orders for passenger cars in the United States, the Committee recommends that no railway passenger cars be imported to Europe from the United States as part of the Marshall Plan.

3. *Rails and ties*.—The requirements of the participating countries and Western Germany for rails and ties are stated as 6.84 million tons of steel for rails and steel ties and 12.29 million cubic meters of wood to make 122.9 million wooden ties. This means that it is intended to replace in 4 years roughly 20 percent of the rails and 22 percent of the ties in Western Europe. This compares with a normal replacement rate of about 3 percent a year but it must be remembered that, for 6 years, adequate replacement has not been possible.

Though the requirement for rails and steel ties involves no direct request for importation, it is clear that steel products are going to be in short supply so the Committee recommends that only 4 percent rail replacement be planned, which will require 5.4 million tons in 4 years. It is this figure which has been entered in Table 11 below, showing total steel requirements for transport.

Of the wood for ties about 5.12 million cubic meters must come from outside Europe. In view of supply difficulties the Committee considers that, although the import requirement of wood does not seem unreasonable, use wherever possible be made of wood ties instead of steel, soft wood instead of hardwood and untreated ties whenever treating can be done in Europe, and that sources of wood outside of the United States be used to the maximum extent.

4. *Repair of rolling stock.*—The Paris countries have made no explicit provision for the steel required to repair rolling stock. In view of the large bad order inventories the Committee feels that repair is a first priority necessity and estimates that about 2.7 million tons of steel will be required for the purpose in the years 1948–51. Except as it affects the whole steel program, this is not a requirement of steel to be imported.

5. *Waterway and port equipment.*—The Paris countries plan to produce for themselves the quantities of inland waterway and port equipment included in Table 11. Except as they affect the over-all steel position, these plans do not involve importation into Europe.

IX. European Productive Capacity

Table 11 below roughly summarizes the approximate amounts of steel required by the program for the production of transportation equipment in Europe. It involves no direct request for the importation of steel. The items for rails and for rolling stock repair are the result of recommendations by this Committee. The Committee has also recommended that 20,000 freight cars be constructed in the United States for Europe which will use approximately 190,000 tons of steel.

The productive capacity described is considerably in excess of any recent 4-yearly output and assumes full availability of raw materials and man-power to each of the industries represented. This assumption can certainly not be realized. Hence it will be surprising if as much as three-fourths of the program is carried out.

In view of the critical state of European inland transport and the very limited help available from the United States, the Committee recommends that the Paris countries give priority, in allocating resources, to the needs of the industries producing for inland transport.

Except in the case of freight cars, each item to be manufactured in Europe contains a part for the use of Western Germany. If their targets are not met, the producing countries may tend to cancel their deliveries to Western Germany. The occupying powers will have to exercise vigilance to see that this does not happen.

Table 11.—European Program for the Production of Inland Transport Equipment in Terms of the Quantities of Ordered Steel Required, 1948–51

Item	Number	Factor used to reduce to tons of steel	Steel, millions of tons
Freight cars.....	621,000.....	9.6 tons per car.....	6.0
Passenger cars.....	21,700.....	15 tons per car.....	.3
Locomotives.....	11,965.....	100 tons per locomotive.....	1.0
Rolling stock repairs.....		½ ton per year per serviceable car.....	2.7
Rails and steel ties.....			5.4
Tugs.....	300,000 hp.....	0.8 per hp.....	.2
Self-propelled barges.....	750,000 deadweight tons.....	40 tons per 100 tons deadweight.....	.3
Dumb barges.....	3.1 million deadweight tons.....	35 tons per 100 tons deadweight.....	1.1
Cranes.....	6,000.....	25 tons per crane.....	.2
Trucks.....	1.3 million.....	2 tons per truck.....	2.6
Total.....			19.8
Scrap saved.....	Scrapped rails and freight cars.....	½ ton steel per ton scrap.....	3.1
Balance.....			16.7

X. Summary of Recommendations on Inland Transport

A. Equipment

1. The Committee recommends that 20,000 freight cars be produced in the United States for export to the Anglo-American Zone of Germany in 1948.

2. The Committee recommends that the major European producers of freight cars stand ready to sell about 10,000 cars from their 1948 production to other participating countries.

3. The United States Government should press for prompt standardization of freight car design.

4. The Committee recommends that failure by European countries to reach their locomotive production targets should not disproportionately reduce their deliveries to Germany.

5. The Committee recommends that no railway passenger cars be imported into Europe as part of the Marshall Plan.

6. The Committee recommends that the steel rail manufacture planned in Europe be reduced from 6.85 to 5.4 million tons for the four-year period.

7. The Committee holds imports of 5.12 million cubic meters of wood for ties is not unreasonable and suggests substitution of wood for steel, soft for hard wood, treating in Europe where possible and import from other countries than the United States.

8. The Committee recommends that further consideration be given to the desirability of importing some finished trucks into Europe in 1948 and 1949 to relieve the strain on the railways.

9. The Committee recommends that in allocating steel the European countries give priority to transport uses, particularly the repair of rolling stock.

B. Sound Management

1. The Committee recommends that both the Low Countries and the Bizone be urged to agree to make possible navigation of the Rhine waterway system by German vessels and crews in Low Countries territory and by Low Countries vessels and crews in German territory.

2. Relief from dollar stringency must be offered not only to the 16 countries but also to the Western Zones of Germany.

3. The Committee recommends that the United States Government draw the attention of those responsible to cases of discriminatory rates which divert traffic from its normal course, and point out that such uneconomic use of means is not in accordance with the spirit of the Marshall Plan.

4. The United States should use its influence to promote an international agreement on road haulage.

5. More freight cars should be allocated to the short-haul of coal to steel mills in the Ruhr.

6. The United States Government should encourage repatriation of freight cars by bilateral agreements.

Report on Metals (Excluding Iron and Steel)

I. Aluminum

Domestic commercial reserves of the aluminum ore, bauxite, are estimated to be equivalent to about 30 years supply at the average rate of mining during the decade 1935 to 1944. Producers of aluminum metal within the United States use large quantities of imported bauxite for the production of alumina from which metallic aluminum is produced. In 1946 foreign bauxite mines provided one-half of the ore used in domestic aluminum production. Without these large imports the present rate of aluminum production would, if continued through 1952, seriously deplete the known domestic bauxite reserves. Foreign bauxite reserves are considered adequate to meet United States needs, however, and no critical shortage of this raw material for the 1948-52 period is foreseen.

Privately owned and leased primary aluminum capacity in the United States of 650,000 short tons annually is in excess of current consumption estimated at 525,000 tons for 1947. In addition there is high-cost Government-owned, and currently idle capacity of 230,000 tons which could be put into production provided sufficient electrical power were available. Thus no conceivable aluminum demand for the foreign aid program seems likely to go unmet. Present exports of aluminum metal from the United States are not relatively large and constitute a negligible drain upon the total domestic supply.

Domestic aluminum fabrication facilities, which are capable of working the total potential primary aluminum production and are thus greatly in excess of total current demand, are considered capable of supporting any anticipated export program.

Additional supplies of aluminum metal for foreign aid can be obtained by rehabilitation and operation of alumina and aluminum plants in the British, French, and American occupation zones of Germany, and in Austria and Italy. There is also some unused capacity in Switzerland, France, and Norway. Ore supplies for these plants should be obtainable from French, British, and Dutch possessions.

II. Antimony

Domestic reserves of antimony are exceedingly small and are chiefly of a by-product nature, as a result of which output is controlled by the rate at which other metals are produced. The domestic output cannot be expanded appreciably and continued production at present rates is dependent upon continuation of the current market price of antimony (\$0.34 per pound). Domestic supplies of antimony are currently somewhat short of demand and the outlook for major improvement in the immediate future is unfavorable unless production is resumed in China, the major prewar source of United States antimony

and the chief world supplier of this metal. New supplies for the fiscal year 1947-48 are estimated at 30,000 short tons of which 5,000 tons is from domestic ore, 5,000 tons from foreign ore, and 20,000 tons from domestic secondary sources. Domestic requirements against this restricted supply are expected to total 35,000 to 38,000 tons. Demand is restricted by the present market price of antimony and would unquestionably be greater if the prices declined 5 to 10 cents per pound. All new supplies of antimony available to United States consumers are allocated by the Government.

The limited nature of the domestic reserves of antimony and the substantial dependence upon foreign sources to meet domestic requirements makes the exportation of antimony metal under a foreign aid program inadvisable. It is believed, however, that the type of products containing antimony which may be required for the foreign rehabilitation program will not be of sufficient magnitude to reduce significantly the antimony supply available for the manufacture of antimony products for domestic consumption.

III. Cadmium

Domestic cadmium reserves occur with commercially important zinc and zinc-lead ores and the recovery of cadmium metal is largely a by-product of the smelting of zinc concentrate. These reserves are estimated to be equivalent to approximately 18 years supply at the average rate of metal production during the decade 1935-44. The United States cadmium metal supply during the years 1947 through 1952 will be approximately 7,000,000 pounds recovered almost entirely at domestic refineries. No substantial quantity of refined cadmium is imported, but much of the metal necessary to meet domestic requirements enters the United States as flue dusts and to a lesser extent in imported zinc ores and concentrates. Although imports of refined metal are expected to increase slightly, flue dusts will continue to be the prime source of imported metal. Domestic demand for cadmium through 1952 will likely continue in excess of supply and thus increased exportation of cadmium to meet foreign aid requirements would seriously disrupt the flow of metal to domestic consumers.

IV. Chromium

The United States, by far the largest world user of chromium, possesses no significant commercial reserves of this metal and is therefore, almost wholly dependent on foreign supplies of metallurgical-grade ores. Owing to a drop of almost one-half in world production of metallurgical grade ores since the wartime peak, the supply is barely sufficient to meet current domestic requirements which probably will increase as a result of the growth in alloy steel production, especially stainless steel. A better supply situation is anticipated but is dependent on the resolution of other problems. In Rhodesia, a major ore supplier, about 300,000 tons of ore have accumulated at the mines because of serious transportation difficulties, particularly in connection with the railroad from the mines to port. It is believed that imports of chromite ores will be increased shortly and that the world demand and supply will be in balance by 1950 or earlier. Exports are limited to chromium-bearing products. Owing to a high domestic

demand and stringency in ore supply, increased exportation could be accomplished only by diversion from internal markets.

V. Copper

Copper reserves in the United States have been estimated at 20 million tons of recoverable copper at current or substantially lower prices, and are thought to be sufficient for an annual production of 1 million tons for at least 10 years with the outlook good for further production at a somewhat lower annual rate.

Output of copper from United States mines in 1947 to 1952, at current or somewhat lower prices, is expected to fall short of the anticipated needs of the domestic industry in that period by 1 million short tons. Domestic mine production is estimated to be 900,000 tons in 1947 and then to decline to an average of 825,000 tons per year from 1950 through 1952. Consumption for the same periods probably will approximate 1,250,000 and 950,000 tons, respectively. Production from foreign mines in 1946 was at little more than two-thirds of their aggregate capacity as measured by recent peak outputs. Thus a substantial copper source for meeting world needs lay unutilized and continues to do so, although the problems involved in expanding production at many mines are not serious. Resumption of and maintenance of capacity production levels at home and abroad, for two or three years would change the present world deficit to a surplus. Current rates of domestic demand for copper constitute a considerable drain on known United States reserves, but the quantity of domestic metal in manufactured goods likely to be required for the foreign rehabilitation program is inconsequential in terms of domestic resources.

The continuation of current copper-aluminum prices will likely encourage an expanding substitution of aluminum for copper. Copper prices passed those for aluminum in November 1946 and are now about 6 cents higher. The continuation of this price relationship may cause the permanent displacement of a substantial part of normal copper consumption needs.

Facilities for producing copper and copper-base alloy products were more than doubled during the war and are capable of supporting any export program within the limits of copper supply.

Current rates of domestic demand for copper constitute a considerable drain on known United States reserves, but the quantity of domestic metal in manufactured goods likely to be required for the foreign rehabilitation programs is inconsequential in terms of domestic resources.

VI. Lead

Domestic mine production plus secondary recovery from 1947 to 1952 cannot be expected at best to exceed an average of 800,000–850,000 short tons annually. Against this supply, domestic demand in an unrestricted full-employment economy will average at least 1.2 million tons. Currently the deficit between production and consumption is being met from stocks and imports. When stocks reach their irreducible minimum (before the end of 1947) the situation will be critical because foreign supplies, in the face of heavy and increasing demands from other parts of the world, will not be adequate to meet the entire shortage. Consequently, it is clear that consumption will

be curtailed, either by economic forces or by domestic or international governmental controls. Any rehabilitation program placing heavy drains on lead supplies would further reduce the ability of American industry to meet domestic consumer and present export demands for end products. Such drains, however, could not conceivably be great enough to deplete seriously the domestic lead ore reserves.

Domestic smelter capacity for lead is far in excess of any probable requirements, but the development of domestic ore reserves to support an expanded production of primary lead would be a major undertaking. Lower grade ores seem certain to play a larger part in the future supply. A more immediate problem arises from the suspension during the war of much development work with the result that most producing mines do not have enough blocked out ore to plan the most economic exploitation. The diversion of mine labor from production to the development work necessary to remedy this condition tends seriously to reduce output because of the general labor shortage.

Domestic facilities for producing lead sheets, bars, tubes and other primary shapes and for making lead alloys and pigments are believed to be more than adequate.

VII. Magnesium

Among the metals, magnesium holds a unique position because domestic production and fabrication capacity vastly exceeds current needs, and United States raw material reserves are unlimited (each cubic mile of seawater contains 5,000 short tons of magnesium). Domestic production costs, at least for sea-water plants are probably the lowest in the world and domestic plants could supply all world needs for the foreseeable future. The rated capacity of domestic sea-water plants is 54,000 short tons yearly which is substantially in excess of the total world output before the war. Current and near-future domestic requirements for magnesium ingot are estimated to be about 10,000 short tons per year, a quantity insufficient to support the minimum economical operation of the one plant currently producing. In view of rapidly accumulating inventories it is anticipated that this plant will soon shut down. Because of the abundant supply of magnesium, exportation of metal, alloy or mill products is desirable. England and France have modern and adequate facilities for fabricating magnesium and could use substantial quantities if the metal were made available. Such action would have the further advantage of offering equivalent power, fuel and labor savings in these and other recipient countries. The substitution of magnesium for metals in scarce supply is possible in the rehabilitation program. The conversion of facilities to the manufacture of magnesium substitutes for other metals is not believed to present a serious problem.

VIII. Manganese

The United States depends largely on imports for its supply of manganese ore, about 10 percent of the internal requirements being obtained from domestic sources. Mineralogical occurrences of manganese have been reported in virtually all the 48 States, but no deposits comparable in size and grade to those found in the principal producing countries of the world are known to exist in the United

States. The United States does possess, however, several large deposits of low-grade material which in total contain very large quantities of manganese that could be recovered under improved technology, higher prices, or both.

Imports of metallurgical and chemical grade manganese ores during 1947 will total about 1.7 million short tons, approximately equal to 1946. Domestic production of 150,000 tons can be expected during 1947, making a total available supply of 1.85 million tons. Consumption during 1947 with the steel industry operating at 85 million tons of ingots, will total 1.5 million tons leaving 350,000 tons for export or stockpiling; normally exports of manganese ore are negligible. The 1947 estimates of domestic production, imports, exports and consumption are expected to continue substantially unchanged through 1952.

The important sources of imported manganese ore in order of prominence are India, Gold Coast, Union of South Africa, Soviet Union, Brazil, and Chile, but the loss of any one would not be serious with regard to maintaining United States imports above the consumption rate. Imports are limited largely by transportation and docking facilities in the exporting countries. Domestic metallurgical grade reserves would not support an expanded rate of output and a substantial yield of metallurgical material from off-grade ores is not to be expected soon. The use of electrolytic manganese will increase gradually during the period but will have very little effect on requirements for high-grade manganese ore.

IX. Mercury

The known domestic reserves of mercury are small but the industry's record for 1941-45 gives evidence that the United States resources could supply domestic needs through 1952 if prices were near the war time high of about \$200 per flask. The United States production accounted for more than 75 percent of domestic consumption in 1946. Total United States production in the period 1948-51 is not expected to exceed 22,000 flasks annually whereas yearly consumption will be about 25,000 to 30,000 flasks.

Foreign supplies are obtainable in large quantities at substantially lower prices, so that the availability of mercury in the foreign rehabilitation program presents no problem. World mercury production capacity (275,000 flasks annually) is far above expected world requirements for the next six years (estimated not to exceed 100,000 flasks annually). Available stocks in producing and consuming countries probably are equal to world needs for about 1 year.

X. Molybdenum

Molybdenum is the only ferro-alloying metal which can be produced in the United States in quantities large enough to meet all expected world needs. The domestic output is derived from mines producing molybdenum as the primary product and from low-grade open pit copper mines producing molybdenum as a byproduct. Copper mines when operating at peak capacity are capable of supplying about 16 million pounds per year. The production from domestic molybdenum mines is geared to the prospective residual demand with a maximum potential output of about 45 million pounds. Total molybdenum pro-

duction in the United States for 1947 and 1948 is estimated at 26.1 million pounds annually of which approximately 16 million pounds is from copper mining operations and the large demand for copper which is anticipated for the next several years suggests a continued high-level production of byproduct molybdenum from this source.

Domestic consumption for 1947 and 1948 will be about 16 million pounds annually and 5.5 million pounds will be required for export if present rate of export is continued. During the war period exports were largely to Germany, Japan, Russia, England, and France.

Present stocks on hand at domestic molybdenum producers are somewhat in excess of 25 million pounds, and more than ample to meet estimated domestic requirements for 1948.

Domestic ore reserves are large and capable of supplying United States requirements for many years to come.

XI. Nickel

The United States is wholly dependent on foreign sources for its nickel requirements, which were about 80,000 short tons in 1946. Domestic consumption will probably not exceed 80,000 to 90,000 tons annually during the 6 years 1947-52. These requirements can be met by output from Canada, where production could be expanded to 125,000 to 130,000 tons annually. In addition, the Government-owned Cuban nickel operation, now idle, could supply 15,000 tons of nickel as oxide annually during this period.

XII. Tin

The United States' supply of virgin tin is derived from metal imports and the output of a Government-owned smelter which, because there are no domestic tin mines, depends entirely on imported concentrates. Metal imports in 1946 were 15,500 long tons and these should rise rapidly as the principal source of the material—the Far East—is rehabilitated. Concentrate supplies largely from Bolivia yielded 43,400 tons of tin in 1946. The increase of concentrate flow to expand the smelter's output to capacity (70,000 tons) may never be accomplished because of export restrictions placed by foreign governments, but by 1950 the world's tin production is expected to reach a level assuring the United States' consumers unrestricted supplies of tin. Their annual requirements, 1950-52 are estimated at 95,000 tons. War-time controls now extended to March 1948 ration all available supply including the small Government-owned stocks and all current imports. Any program requiring tin will have to accommodate itself to this current supply situation but no stringency is foreseen after about 1950. Except for Bolivia's concentrates, almost all the world's tin output originates in the British, Dutch, and Belgian Empires. Thus rehabilitation plans with respect to the tin industry should be easy to apply. Moreover, a reestablished full production could prove a major source of wealth for the reimbursement of the United States.

XIII. Titanium

The United States can furnish an adequate supply of ilmenite to domestic titanium dioxide manufacturers, chief consumers of ilmenite,

for at least 6 years without a serious drain on reserves, but unless there is pressure towards this end, it is likely that substantial quantities of high-grade concentrates will continue to be imported. At rates prevailing in the first half of 1947, supplies from domestic mines and imports for the year will exceed 700,000 short tons, whereas plant capacity for ilmenite consumption is approximately 400,000 tons. Industry stocks in the United States are adequate for almost one year's needs. From a world viewpoint, there will be ample ilmenite production to cover present plant requirements, and even if present adequate plant capacity for the manufacture of titanium dioxide in the United States and abroad is substantially expanded, no shortage of crude material is anticipated. Expected world requirements for the next 6 years can be supplied readily from known world reserves.

XIV. Tungsten

Domestic production of tungsten concentrates (60 percent WO_3) will, as heretofore, be inadequate to meet United States requirements, which for the 6 years 1947-52 are expected to average 8,000 to 10,000 tons annually, possibly half of which might be supplied by domestic mines if relatively high prices are maintained. The deficit, however, could be met by mines in South America, Mexico, Canada, Australia, and certain Asiatic and African countries, where production could be expanded under favorable prices. A substantial quantity of tungsten in high-speed steel could be conserved by displacing it with molybdenum, the only ferro-alloying metal which is being produced in the United States in quantities sufficient to meet all domestic requirements. China is normally the leading producer but virtually all of its output at the present time is going to Russia. Known domestic reserves of tungsten are small in terms of current production rates, and unless new discoveries are made a decline in output may be anticipated.

XV. Vanadium

Formerly about 30 percent of the United States' vanadium requirements were derived from foreign sources, but now domestic production and requirements are more nearly in balance. The recently established payments for the uranium content of western carnotite ores is expected to stimulate vanadium production and will probably provide a surplus above current domestic needs which could be exported. Although domestic reserves of straight vanadium ores are not large, the potential supplies of byproduct vanadium that could be made available through technical developments are extensive.

XVI. Zinc

From 1947 to 1952 United States zinc needs are expected to remain at about 880,000 tons per year to be met by a slowly declining production from domestic mines and increasing imports. There is a war-accumulated stockpile of foreign concentrates in the United States containing some 300,000 tons of recoverable zinc. These form an insurance against minor interruptions to the flow of domestic mine production or imports. Recent developments at foreign zinc mines have been encouraging and the outlook for zinc concentrate supplies

is one of sufficiency for nearby needs and probably abundance for 1952.

The termination of a net export position in the middle 1930's followed by an increasing dependence of United States zinc consumers on imports is a measure of the progressive depletion of domestic ore reserves. This process has been a slow one and any foreseeable added demand on the United States zinc supply for foreign rehabilitation not only would be small compared to the full demand, but most likely would be supplied by imported metal. There is excess capacity for slab zinc production in the United States. Moreover, the reviving zinc smelting industry of the Low Countries and northern France guarantee that the world's concentrates can be reduced to metal promptly.

Slab zinc exports in 1946 represented about 5 percent of the total domestic smelter production; and in the first 6 months of 1947, about 14 percent. Inasmuch as these exports represent foreign ores smelted in bond, such export movement can have no effect on our domestic mineral resources.

The current domestic mechanical and manpower facilities for the production of zinc and zinc-base alloy manufactures are believed to be more than ample to maintain present or anticipated increases in export demands from the United States for foreign reconstruction during 1947-52, without substantial encroachment on our domestic economy.

Report on Wood and Wood Products

I. Introduction

Government experts from a number of agencies have studied the wood and wood products industries in the United States with a view to determining quantities available for export and the economic effects in this country of present and possible future exports. Their findings have been summarized in the following paragraphs.

Commodities made from saw-timber trees are of first importance in timber exports for reconstruction needs, and, of these, lumber is in heaviest demand and shortest supply. Lumber also is the most important United States forest product, accounting for 70 percent of the total annual saw-timber cut. Consequently, this report deals largely with lumber. Other construction items, such as plywood, railroad ties, poles, and piling are covered briefly.

The problem of increasing United States exports of saw-timber products cannot be considered apart from the facts of serious timber depletion in this country and saw-timber drain 50 percent greater than growth. Also there is a world shortage in timber supply, and many countries, especially in Europe, capable of cutting more timber are unwilling to break away from a traditionally conservative rate of cutting based on sustained production.

II. Production and Trade in Forest Products

During the war, the United States was able to meet its military requirements for lumber but only through the application of strict controls curtailing civilian usage. At present, there are large unfilled needs for low- and medium-cost housing, farm buildings, and other important uses, while supply and demand currently are balanced at the highest prices in history. The effective demand would be considerably higher with lower lumber prices, but at lower prices production would decline because of a shortage of suitable stumpage.

Historically, lumber production has shown a long-term downward trend; similarly, per capita consumption of lumber has declined during the past 40 years, from over 500 to less than 300 board feet (table 1 below).

Currently, lumber production is running at about 36.5 billion board feet annually, compared with levels of from 12 to 30 billions in the depression years before the war. Some decline in production over the next 5 years appears likely in view of the extent of timber depletion, particularly in the East, resulting in greater difficulty in locating suitable stumpage and increased operating costs (table 2). Maintenance of the present high level of production would require extraordinary measures. The opportunities for so doing are much better in the West than in the East.

Present lumber stocks are comparatively low in volume and short in the better grades. This situation accounts for part of the difficulty experienced by consumers in obtaining their lumber needs through customary distribution channels. Stocks declined from about 18 billion board feet in 1941 to a little more than 4 billions early in 1946, and now stand at somewhat over 8 billions. It is not anticipated that they will be built up higher than 10 to 12 billions during the next 5 years. Such a stock level obviously would not provide as big a cushion for emergency use as was available at the beginning of World War II.

The United States traditionally has been a net exporter of lumber, with exports averaging between 4 and 6 percent of production, but since 1941 the United States has been a net importer (table 1). During the last 5-year period imports have been twice exports. At present, gross exports, running at a rate of about 1 billion board feet annually, represent less than 3 percent of expected production in 1947. Imports are at about the 1946 level of 1.2 billions.

It is not anticipated that the net position of the United States in foreign trade will change materially during the next 5 years. Some decline in lumber imports may occur during the last half of 1947, and possibly during the next 5 years.

Export controls on lumber and a number of other forest products have recently been extended by Congress, although export quotas have been increased over last year and certain items have been removed from the control list.

The United States normally has exported lumber to most of the principal countries of the world, the United Kingdom and Canada being the largest individual recipients. Recently, exports to the Netherlands and China have been increased over prewar. European countries as a whole received the largest share of United States lumber exports in 1946, 37 percent. Imports are now almost entirely from North America—86 percent from Canada and 97 percent from Canada and Mexico combined.

United States exports of such items as ties, poles, piling, plywood and flooring are small compared to production, but have been increasing since 1946, due to improved supply and the resultant increase in export quotas. Recent exports of these items were:

Item	Unit	1946	5 months of 1947
Railroad ties (including sawed).....	M board feet.....	29,232	48,485
Poles.....	Number.....	62,285	46,512
Piling.....	M lineal feet.....	1,279	1,110
Softwood plywood.....	M square feet.....	29,231	26,660
Hardwood flooring.....	M board feet.....	2,432	965

III. The Timber Resource

Of the 624 million acres of forest land in this country, 461 million acres are capable of producing timber of commercial quantity and quality and are available now or prospectively for timber use.

The volume of saw timber in the United States, as estimated in 1945, was 43 percent less than the volume reported in 1909 and 9 percent less than in 1938. The 1,601 billion board feet of standing timber is not well distributed. Almost one-third of it is concentrated in western Washington and Oregon on 6 percent of the forest land.

The great forest acreage of the East does not have enough growing stock to sustain its present output.

Saw-timber drain (cut plus natural losses), two-thirds of which is for lumber, was estimated at 53.9 billion board feet for 1944 and may have reached 58 billions in 1946. This is 50 percent in excess of annual growth (table 3). Because of the backlog of virgin timber, this is not dangerous in the West, but continuation of the present rate of saw-timber cutting in the East will be at the expense of future productivity.

With respect to timber of all sizes, including small trees, tops, and limbs as well as trees of saw-timber size, growth and drain were about in balance in 1944. But 80 percent of all timber products are cut from trees of saw-timber size. Furthermore, the cut is generally of much higher quality than the new growth.

The intrinsic needs of this country for saw-timber products are considerably greater than the present cut. The shortage is reflected in high lumber prices which in recent years have risen much faster than those of other building materials.

Production of lumber and other saw-timber products is being adversely affected by shortages of suitable accessible timber. These will be increasingly felt in the course of the next 5 years. One reflection of timber shortage is the large proportion of total cut which now comes from small portable sawmills. Another is the large proportion of low-grade lumber on the market. Failure of the market to absorb this has recently caused some small sawmills, especially those sawing hardwoods, to close down.

Lack of logging, milling, and road-building equipment, and shortage of skilled manpower are also retarding production now.

Under these circumstances a significant increase in lumber exports during the next 5 years would be at the cost of either reducing domestic consumption or accelerating resource depletion.

In contrast, forests in some European countries are in much better condition than United States forests. For many years the forests of central Europe have been cut conservatively on a sustained-yield basis under government controls. It was only at the most desperate stage of the war that Hitler ordered a 50-percent rate of overcutting in the German and Austrian forests. Even this failed to produce the needed timber, because of the firmly ingrained belief in conservative forest management as a national policy. The ability of European forests to contribute more heavily to reconstruction needs is pertinent to the question of increasing exports from this country.

IV. Industry Comments

The foregoing remarks were presented to a number of members of the lumber industry and their comments tended to show a lack of complete agreement with the Government position. In general, their feelings appear to be that the extent of forest depletion was not as serious as the Government report indicated. Most industrialists were of the opinion that present exports could be maintained and over a period of time increased to some extent. They also seem to be in agreement on the fact that if exports were confined to lower grades of lumber there might be a beneficial effect on the American lumber industry. One individual suggested that exports of logging and sawmill equipment be emphasized to increase the rate of cutting in Europe.

V. European Requirements of Wood and Wood Products

Timber represents less than 2 percent of the total dollar import requirements against the United States under the Marshall Plan (351 million dollars for timber, 20,400 million dollars total). Of the total timber import requirements of 2,400 million dollars, the United States is expected to supply 15 percent.

Timber is much more important in the total import program than the relative dollar values indicate. Economic recovery is not possible without an adequate timber supply. There is an essential interdependency between timber and food, timber and coal, and between timber and iron and steel in a prosperous national economy, and Europe is even more dependent upon wood than is the United States as evidenced by the determination of participating nations not to overcut their forests.

In the past, Europe as a whole has been self-sufficient in timber, but the participating countries have depended upon imports (especially softwoods) from Russia and other eastern European nations. Because normal trade channels have been disrupted, particularly the export position of Russia, the participating countries must seek additional timber from outside Europe.

There is a world shortage of softwoods which are used primarily for housing, other construction, shipping, and packaging. To this shortage there is no ready solution. Scandinavian countries, Canada, United States, and Russia control the major softwood resources.

In prewar years (1934-38), the total timber requirements of participating countries amounted to 3,100 million cubic feet, or about 40 percent more than their production. During the next 4 years, their program of average annual timber requirements and production remains at about the prewar level. In general, this appears reasonable although there are certain exceptions with respect to either individual countries or a general tendency to be overly restrictive concerning acceptance of lower grades and substitute species.

Timber import requirements against the United States are moderate compared with those against the rest of the world. These requirements for the most part can be met within the framework of expected United States production, consumption and export trade with sufficient margin to maintain trade relations with other nations of the world.

Equipment requirements are not large in dollar value but will be difficult to meet because they consist of items in short supply in the United States. Nevertheless, many of the equipment needs must be met if the participating countries are to achieve production goals.

Because the timber program presented by the CEEC countries does not allocate 30 percent of import requirements to any source, it is possible that the United States may subsequently be requested to increase its exports to these countries, especially softwood lumber. Substantial modification of the timber program to increase United States shipments of softwood lumber would have serious impact on the currently stringent United States supply. Such increase could be met only by curtailment in domestic consumption, including house construction or by special measures to increase production. If production is increased the present rate of resource depletion and overcutting will be accelerated.

Table 1.—Lumber Production, Imports, and Exports, United States Totals, 1935–46

[In thousands of feet, board measure]

Year	Production ¹	Imports ²	Exports ²
1935.....	21,832,833	438,017	1,313,265
1936.....	27,626,440	662,264	1,284,020
1937.....	29,008,953	688,102	1,443,205
1938.....	23,413,497	530,405	977,304
1939.....	28,754,615	718,283	1,104,157
1940.....	31,159,126	740,010	972,177
1941.....	36,537,629	1,360,572	692,546
1942.....	*36,332,248	1,540,373	462,787
1943.....	*34,288,757	855,529	309,769
1944.....	*32,937,549	1,010,452	359,633
1945.....	*28,122,344	⁴ 1,061,924	⁴ 427,425
1946.....	³ 35,061,504	1,237,955	⁴ 648,880

¹ Forest Service estimates except where indicated (*) which are census data.

² Source: "Foreign and Domestic Commerce and Navigation of the United States." Data are for fiscal years through 1918—calendar years thereafter.

³ Preliminary Forest Service estimates, subject to revision.

⁴ Preliminary, subject to revision.

Table 2.—Expected United States Lumber Supply and Consumption, 1947, 1948, and 1949–52 ¹

[In millions of board feet]

	1947	1948	Average 1949–52
Domestic production.....	36,500	35,500	34,000
Imports ²	1,200	1,200	1,200
Total new supply.....	37,700	36,700	35,200
Domestic consumption ³	35,200	35,200	34,000
Exports ⁴	1,000	1,000	1,000
Allotments to stocks.....	1,500	500	200
Total disappearance.....	37,700	36,700	35,200

¹ Assuming maintenance of present high levels of employment for a labor force increasing 1 percent a year.

² Assuming imports maintained at 1946 level.

³ Assumes present relatively high level of lumber prices. Demands would be materially higher with lower lumber prices but at so-called "normal" prices production would be less than demand because of timber shortages.

⁴ Assuming exports maintained at level of first quarter 1947.

Table 3.—Annual Drain and Growth on Commercial Forest Lands of the United States, 1944

	Saw timber	All timber
Annual drain:	<i>Billion board feet</i>	<i>Billion cubic feet</i>
Lumber.....	34.4	6.7
Pulpwood.....	4.8	1.3
Fuel wood.....	3.9	2.2
Other commodities ¹	6.6	2.0
Total commodity cut.....	49.7	12.2
Losses from fire, insects, diseases, etc.....	4.2	1.5
Total drain.....	53.9	13.7
Annual growth.....	² 35.3	³ 13.4

¹ Includes principally hewed ties, fence posts, poles, piling, veneer logs, mine timbers, cooperage stock, and shingles.

² Annual growth of trees above minimum saw-timber size in accordance with regional practices, and total volume of trees reaching such minimum sizes each year; all on lumber-tally basis.

³ Annual growth on all trees 5 inches d. b. h. and larger, including tops and limbs (top only in softwoods) of saw-timber trees and total volume of trees reaching 5 inches in d. b. h. each year. Bark not included.

SOURCE: Forest Service, United States Department of Agriculture.

Report on Cotton

I. Production and Consumption

The United States production of cotton from the current crop was estimated by the Crop Reporting Board at 11.2 million bales as of October 1, 1947. Consumption of domestic mills for the 1946-47 season is estimated at 10 million bales (compared with 9.2 million bales in 1945-46). Assuming no reduction in carry-over from the present 2.5 million, and assuming the same consumption by domestic mills during the season beginning August 1 as during the season just ended, there would be available for export from August 1, 1947, to August 1, 1948, 1.5 million bales.

The carry-over of all cotton in the United States as of August 1, 1947, was about 2.5 million bales (this is the lowest since 1929 and compares with 7.5 million bales carried over a year ago). The present carry-over is a little above the minimum required for inventory and pipeline purposes. It could probably be reduced somewhat at the cost of considerable inconvenience to the mills.

II. Exports

Exports of cotton textiles from the United States were at an annual rate of 1.5 billion yards during the first 6 months of 1947 out of a total domestic production of about 9.9 billion yards (estimated). This is at an unusually high rate. In terms of raw cotton, 1.5 billion yards of textiles is the equivalent of from 1.0 to 1.5 million bales. Exports of raw cotton were at the rate of 3.5 million bales last year. Assuming a continuation of exports of raw cotton and cotton textiles from the United States and domestic mill sales of textiles in the United States at present rates, the carry-over of raw cotton would be reduced from 2.5 to one million bales by August 1948. This is an impossibly low figure. Accordingly, the effect of maintaining exports and consumption would be either to sustain present high prices for both raw cotton and cotton textiles or even to increase these prices further. Since cotton textile prices are an item of significance in the cost of living, the price effect of financial aid under the Marshall plan in this particular field should not be overlooked.

It may be desirable that any aid provided to finance exports of cotton should be used to finance exports of raw cotton rather than cotton textiles. There would be a very considerable saving in cost by so doing. Furthermore, the psychological advantage of insuring that all possible costs of the Marshall plan should be provided for by European production rather than by larger loans or gifts from the United States would be very great.

III. World Situation

World consumption of cotton during the season ending August 1, 1947, was about 95 percent of the prewar (1934-35/1938-39) average. World production on the other hand was about one-third less than the prewar average. The world carry-over of cotton has dropped sharply. The reduction in 1945-46 was about 4 million bales and the reduction for this season is expected to be as much or more. August 1, 1947, world stocks were about one-third less than a year ago.

IV. Summary of Findings

In summary, this apparently adds up to a situation in which the world supply of raw cotton available to meet world demand during the season just beginning is going to be very tight. It appears that world demand for cotton from the United States is likely to be at least as great as the 3.5 million bales which were exported last year if the funds are made available abroad for the purchase of American cotton. This amount could hardly be exported by the United States during the year beginning August 1, 1947, without reducing our carry-over of raw cotton below a workable level. It would appear that about 2.25 million bales would be the most which could be exported during the year now beginning unless there should be a drastic curtailment in our exports of cotton cloth. Even this export of 2.25 million bales would be at the expense of considerable inconvenience to the mills and would reduce the carry-over to less than 2 million bales. The tightness of supply for the current year may be alleviated by the reductions in imports of cotton which consuming countries have recently had to make, pending possible receipt of financial aid from the United States.

The cotton situation during the 1947-48 marketing year is still somewhat in doubt. During the 1946-47 season domestic mill consumption totaled 10 million bales. The mills expect this rate to continue during 1947-48. However, mill consumption dropped more than seasonally during May, June, and July, averaging about 9 million bales annual rate for the three months and dipping to 8.3 million in July. In August the annual rate increased to 9.5 million. While the trend of mill consumption for the 1947-48 marketing year is not clear, it appears probable that mill consumption during that year will not exceed 9 million bales.

It is also obvious that either American or foreign production of raw cotton or both, would have to be expanded substantially during the next four or five years if it is planned to maintain world mill production during this period at even its present levels since the current production rate is being maintained at the cost of a material reduction in world carry-over. The present level of world cotton textile mill production is as high as 95 percent of the prewar average because production and consumption in some nonwar devastated countries is much above prewar. If mill production in all European countries were to reach the prewar levels, a correspondingly larger increase in raw cotton production would be necessitated.

There does not appear to be any substantial problems of exhaustion of resources if the rate of export of raw cotton or its equivalent were maintained or even somewhat increased. Cotton production during

recent years has been at a relatively low level. While soil depletion is involved in any production of a crop such as cotton, it seems quite sure that there will be no unusually high rate of soil depletion on account of increased exports under the Marshall plan.

It may well prove to be the case that we cannot export the amount of raw cotton and cotton textiles which would be required under the Marshall plan without the use of economic controls other than those now in use. Some coordinated administration of the exports of raw cotton and cotton textiles which could limit the amount of exports and decide between the amounts exported in each category might have to be combined with some system for allocating stocks of raw cotton among domestic mills.

Report on Hides, Leather, and Shoes

I. Purpose and Scope of Report

Hides, leather and shoes constitute important consumer goods required for the economic recovery of western Europe. This summary report gives the salient facts relative to the United States hide, leather, and shoe requirements and supplies together with such analyses of European needs as can be made from the data available. A careful evaluation of the United States position with respect to these commodities is necessary to any subsequent review of Europe's needs.

The Committee has been forced to confine largely to the production and utilization of leather in the United States, the extent and nature of imports and exports, and of the ability of the United States to increase its exports.

Most of the leather used for shoes is made from cattle hides, calf-skins and kips, and goat- and kidskins. Leather made from other hides and skins constitutes a negligible fraction. Statistics relating to hides and leather are necessarily complicated because of the variety of hides and skins used; therefore, in preparing the data for the purposes of the present analysis the several major types of hides and skins, which vary considerably in size and weight, have been reduced to an "equivalent cattle-hide" basis. This permits simplification of tables and statements of comparative supply and demand in terms of equivalent units. The conversion factors employed throughout are as follows:

- 1 equivalent cattle hide=40 lbs. of sole leather or 40 square feet of upper leather.
- 4 calf or kipskins=1 equivalent cattle hide.
- 8 goat and kidskins=1 equivalent cattle hide.

II. European Recommendations and Need

The net import requirements of the CEEC countries are not at all clear from the reports and analyses thus far available. Hides and leather goods for the sixteen Paris conference countries and western Germany were not covered by technical committees at Paris and were included in a single miscellaneous category by the Paris Balance of Payments Committee. Some consideration is necessary, however, because of possible impacts on the economy of the United States through competition for scarce goods in the American market and because the total import item is a major one.

The CEEC general report suggests that total gross imports of hides and leather for all 16 countries and western Germany for the year 1948 would amount to 422 million dollars. This, of course, is not the net import requirements for consumption by the CEEC coun-

tries. It does not allow for duplication on account of trade within the CEEC group, formerly amounting to about one-third of the area's total imports of cattlehides and leather. Further, it gives no indication of reexports to the rest of the world, which in the case of leather and leather products might well be considerable. In fact, such re-export from western Europe might be a significant source of foreign exchange and would necessarily depend in part upon the import of skins and hides.

Lack of detailed information relative to supplies and requirements by countries, to the extent of trade within the area, and to plant and labor conditions in the European leather industry make possible only the most general appraisal of the CEEC total gross import estimates for 1948.

It is estimated, on the basis of meat output, that local production of hides probably will not reach more than two-thirds of prewar in 1947-48. The CEEC countries have indicated that they expect to have pre-war numbers of cattle by 1951. No immediate increase in domestic production of hides seems probable. Assuming CEEC local production of hides to be somewhat smaller than before the war, the accompanying table 1 gives one estimate of the possible distribution of net imports of hides into the CEEC area during 1948. The figures are based upon latest consular reports. The estimate assumes much smaller German imports from outside of Europe (Germany was formerly the largest importer of bovine hides and exporter of leather) and a volume of imports by all of the CEEC countries other than Germany from outside the area equal to that of 1937. This volume of hide and skin imports might well be available if increases in consumption outside western Europe and reduction in hide exports by development of leather industries in producing countries outside western Europe are no greater than the estimated decline in German imports. The figures are somewhat unrealistic in that they do not take into consideration increase in population in the CEEC countries.

Table 1.—Estimated 1948 Imports of Hides and Skins Into Western Europe¹ from Outside the Area

Source	Cattle hides (in million pounds wet)	Calf and kip (in million pounds wet)	Goat and kid (in million pounds)	Total as equivalent cattle- hides ² (in millions)
Latin America	370	15	2	7.7
Asia	85	1	25	2.2
Australia, New Zealand	40	5	—	.9
Other, including Africa, Canada	55	1	6	1.2
Total	550	22	33	12.0

¹ The 16 Western European countries, including Western Germany.

² An equivalent cattlehide is here defined as 50 pounds of wet hide.

Source: Latest consular reports. U. S. Tariff Commission compilations of exports in prewar years, particularly 1937, by countries of destination.

It is difficult to determine the quantity of hides and leather to be asked from the United States. In a tabulation of the non-programmed requirements of the sixteen Paris conference countries and Western Germany the following tentative breakdown is given in terms of millions of dollars.

Hides and Leather

[In millions of dollars]

1948			1948-51		
From United States	From other Americas	Total of all areas	From United States	From other Americas	Total of all areas
15	160	422	50	700	1750

If importations were entirely in hides instead of leather and shoes, the 15 million dollars estimate might represent a million equivalent cattlehides.

There is no basis for making useful estimates of leather imports for the area inasmuch as western European countries will doubtless wish to conserve foreign exchange and to rebuild and maintain their own industries. They will import hides and only the small minimum requirements of specialty products needed industrially.

In order to appraise the estimate of 422 million dollars for 1948 imports, it is necessary to make certain assumptions regarding prices. The value of cattlehide imports into the area for 1948 is calculated to be 120 to 140 million dollars and imports of other hides and skins would probably increase the total to 200 millions. The imports of leather from all areas and of hides and skins within western European countries could reasonably bring the value of total imports up to the 422 million dollars estimate given in the CEEC general report.

In order to appraise more fully the CEEC hides and leather position, it would be necessary to request fuller information showing for each country by major classes of hides and skins, and separately for leather, the import requirements for each of the years 1948 through 1951, from : (a) Other CEEC countries, (b) the United States, (c) the rest of the American continent, (d) dependent areas, and (e) other nonparticipating countries. Similar information regarding export programs would also be required. All of the individual submissions for each separate estimate as outlined above would not be significant, or, therefore, necessary; but without information approximating this outline in detail, the CEEC hides and leather import program cannot be appraised more adequately than above.

III. Major Uses of Leather

This report is primarily concerned with the use of hides, skins and leather tanned therefrom for the production of footwear. Approximately 85 percent of all leather consumed in this country goes into shoes. However, a large part of the remainder is used for highly essential purposes such as industrial belting, textile leathers, mechanical leathers, work gloves and clothing. Leather belting and mechanical leathers are currently absorbing twice the immediate prewar quantity of cattlehides to meet expanded needs of United States industry and for export to aid industry abroad. In 1946, for example, 954,000 hides were employed for belting leather compared with 570,000 in 1939, and at least an equal increase has occurred in the demand for textile machinery leather, harness, and mechanical leather products. While total requirements for these purposes are small in comparison with consumption of leather for shoes, they do represent an important in-

crement of demand in terms of annual supply. Consequently, while separate treatment or analysis of products other than shoes is not made here, it must be emphasized that such uses of leather are highly essential.

Shoes are made principally from cattlehide, kip, calf, and goatskin leathers. Other types of leather such as horse, deer, alligator, and reptile are also used in shoes, but because one type of leather usually can be substituted for some other type, it is possible to regard the contribution which these minor leathers make to the supply situation as being roughly equivalent to the non-shoe demands for cattle, kip, calf, and goatskin leathers for such purposes as upholstery, belting, harness, gloves, garments, etc. To concentrate attention on cattlehide, kip, calf, and goatskin leather is in accordance with common industry practice in surveying over-all supply and requirements data and is similar to the method used by the War Production Board in determining the supply of shoes available for rationed consumption during the war. It greatly simplifies the problem of marshalling data on hide, leather, and shoe supplies and requirements.

A statistical simplification which facilitates an understanding of the supply and requirements problem is to disregard imports and exports of both tanned leather and shoes. Neither the imports or exports of leather or shoes ordinarily amount to more than 2 or 3 percent of domestic production. Generally speaking, foreign trade in both leather and shoes is limited to what we do not want to make or cannot use. Hide and skin raw material imports and exports are of major importance, but they will be taken up later as factors affecting the total available leather supply.

IV. Summary Statistical Analysis

Analysis of the annual availability of hides and skins for leather manufacture, and the annual disappearance of leather in the domestic market, requires a tabulation of:

(a) Yearly opening inventory including raw hides and skins, hides or skins in process, and total stocks of finished leather.

(b) Annual addition to supply consisting of domestic output less exports and plus imports.

(c) Addition of the opening inventory and new supplies, which is a measure of the total available supply during any year.

(d) Disappearance of leather during the year.

(e) Inventory carried forward at the close of the year comparable to (a) above.

This analysis is provided in Table 2 where all data are stated in terms of equivalent cattlehides and which also gives per capita ratios to relate changes in supply with changes in population. In connection with Table 2 it should be noted that the total inventory of raw material, in process stock and finished leather represents to a very large extent the working inventory or minimum pipeline supply of the tanning industry. Table 2 carries the analysis from 1936 through 1946 with estimates of supply for 1947 based upon the first eight months. An actual inventory figure is provided for August 31, 1947, and it will be noted that total inventories on that date were further reduced from the beginning of the year. (See Appendix for more detailed description of Table 2.)

Table 2.—Hide and Leather Supply and Demand—Cattlehides, Calfskins, Kips, Goat, and Kid Skins

[In thousands of equivalent hides ¹]]

	United States population July 1	Carry-over preceding year ²	New supply						Total available per million population ⁵	Leather shipments	1,000 hides per million population	Carry forward		Statistical error ⁸
			Domestic production	Exports	Net domestic	1,000 hides per million population	Imports ³	Total ⁴				Computed ⁶	Reported ⁷	
1926	128,053	15,616	23,340	527	22,813	178.2	9,638	32,451	375.4	31,142	245.5	16,695	16,635	+10
1927	128,825	16,935	20,798	684	20,044	155.6	9,754	29,808	369.0	29,326	227.6	17,117	17,153	+37
1928	129,826	17,154	21,272	826	20,446	157.5	5,880	26,326	334.9	27,820	214.4	15,650	15,609	-41
1929	130,880	15,609	21,834	576	21,258	162.4	9,101	30,359	351.2	31,448	240.3	14,520	14,532	+12
1930	131,970	14,532	19,726	433	19,293	146.2	10,172	29,465	333.4	28,568	216.5	15,420	15,380	+41
1931	133,203	15,480	22,961	208	22,753	170.8	15,819	38,572	405.8	39,098	238.5	14,954	15,109	+155
1932	134,665	15,109	25,089	45	25,044	190.4	11,258	36,302	386.2	39,626	293.5	12,455	12,591	+76
1933	136,497	12,561	22,470	19	22,470	164.6	9,582	32,052	328.8	34,453	252.4	10,160	10,080	-80
1934	138,083	10,080	27,515	19	27,496	196.1	7,095	34,591	323.5	33,237	240.7	11,434	11,414	-20
1935	139,586	11,414	30,767	142	30,615	219.3	4,162	34,777	330.9	33,345	238.9	12,846	12,844	-2
1936	141,229	12,844	28,168	1,194	26,974	191.0	4,960	31,964	317.3	32,770	232.0	12,038	12,021	-17
1937 (estimated ⁹)	144,002	12,021	30,250	1,779	28,471	197.7	5,403	33,874	318.7					
1947, Aug. 31													11,414	

¹ Converted to equivalent hides on basis of 4 calfskins or 8 goatskins equals 1 hide.

² Tanners' total visible stocks, raw, in process, finished.

³ Imports for consumption.

⁴ Total movement to tanners.

⁵ Total new supply plus carry-over at beginning of year.

⁶ Total available supplies less shipments.

⁷ Reported by tanners.

⁸ Accounted for by reported inventory revisions and conversion to equivalent hides.

⁹ Based on first 8 months times 150 percent.

APPENDIX

1. *Description of Table 2.*—The table on hide, skin, and leather supply is based upon the conversion of calfskins and kips and goat and kid skins to equivalent hides. The resulting common units are a theoretical measure in terms of area. While this is not adequate, practically speaking, because sole or belting leathers, for example, involve weight rather than area, it does provide a statistical means of resolving total supply into homogenous units.

The procedure followed in determining the annual new supply is based upon the appearance or movement into sight of hides and skins into tanners' hands. The statistics of the Tanners' Council include 100 percent of the industry in each category and therefore provide an accurate measure of the number of hides and skins in each type reaching tanners monthly and yearly. This method is sufficiently accurate for imported hides or skins because there is little or no time lag between the actual importation and the recording of such imports in tanners' inventories. With respect to domestic hides and skins it should be noted that only federal inspected slaughter is accurately known and the balance of the domestic supply can be accurately gauged by the appearance of hides and skins in tanner's hands. Consequently, the statistical method followed by the Tanners' Council proceeds from a determination of the total new supply each year moving into sight to tanners, adjusted for exports. There may be minor lags involving stocks held by packers or hide and skin dealers. However, these tend to be more or less consistent and represent variations from essential working or pipeline inventories.

Deliveries as shown in the table represent shipments of leather by tanners; deduction of these shipments from the total available supply should equal the aggregate closing inventory each year. It will be noted that the statistically computed closing inventory and the actual reported inventories in tanners' hands at the end of each year coincide to a remarkable extent. Variations are accounted for by loss of skins in process, difference between perpetual inventory records and actual tally inventories at the close of each period, etc.

No accurate measure is available of leather inventories in the hands of manufacturing consumers such as shoe producers and others. It should be noted that such inventories generally tend to approximate the amount of leather required for efficient operation of manufacturing enterprises and are believed to be normally closely consistent from year to year. However, the sharp decline in tanners' inventories during the war years, from which only a minor recovery has occurred, is believed to be paralleled by a similar decline in the inventories of consuming industries.

Certain noteworthy facts are shown by table 2:

1. The increase in population in the United States from 1936-47 is somewhat irregular, the total increase in the twelve years being about

16 million. The postwar material increase in birthrate means a proportionate increase in the demand for leather for infants and children's shoes.

2. The carry over of equivalent cattlehides from previous years has tended to decline in recent years and is currently at least 3 million less than prewar. The shoe industry is apparently working on more slender margins. There has been no apparent downward trend, however, since 1943.

3. Domestic production of hides increased materially during the war years and is currently at an all time high. Currently domestic production is at least 7 or 8 million equivalent cattlehides greater than prewar.

4. The exports of hides have never been large and in most years negligible. Since the abolition of controls there has been a decided increase apparently arising to about 5 percent of domestic production.

5. The number of domestic hides per million of population has increased during the war years by $\frac{1}{5}$ to $\frac{1}{4}$.

6. Importation of cattlehide equivalents has fallen off appreciably in recent years.

7. The total available hides per million of population, including imports, is not far from the average of prewar. In the past several years there has been a noteworthy down turn.

2. *Shoe production and leather requirements.*—The statistics of shoe production include various types of footwear for men, women, and children, such as staple street shoes, slippers, athletic shoes, playshoes, as well as such products as rubber overshoes. The bulk of shoe output is made of leather but some shoes may be made wholly or partly of other materials. In this analysis primary attention must be given to the conventional types of footwear of which leather is the major component. For the purpose of relating shoe production to leather supply and consumption, the total reported output of shoes is segregated into shoes with leather uppers and a residual "all-other" classification. Shoes with leather uppers are taken as synonymous with leather shoes.

Table 4 gives the annual output of shoes in the United States with the production for civilian account broken down by shoes with leather uppers and all other. Annual totals for each year are directly comparable. A breakdown is also shown of civilian leather shoes by men's, women's and children's footwear. It will be noted that output of leather shoes for civilians from 1943 through 1945 was drastically below the prewar level due to diversion of leather supplies for military use and lend-lease and production restrictions. As a result, demand in 1946 and 1947 has been intense both for current consumption and to replace the deficit in retail inventories and consumer wardrobes created during the war years.

Cattlehides provide the raw material for the largest single component of our leather supply. They are used for both sole and upper leather in approximately equal proportions. Sole leather is made almost exclusively from cattlehides, and the only other soling material of importance is rubber or rubber composition. Approximately 25 percent of the current shoe production is made with soles of the latter types, and this is the maximum volume of rubber soles which the market will absorb. Upper leather from cattlehides is supplemented by leather produced from calfskins and kips as well as goat and kid

leather. All of the United States supply of goat and kidskins must be imported; approximately 25-30 percent of the leather shoe production is normally dependent upon goat and kid leather for uppers.

In analyzing comparative supplies of hides, skins, and leather, in relation to shoe production, per capita ratios offer a useful measure of relative changes.

Table 3.—United States Shoe Production

[In thousands of pairs]

	Grand total	Gov- ern- ment	Civilian					All other ¹
			Total civilian	Leather Uppers				
				Total	Men's	Wo- men's	Chil- dren's ¹	
1936.....	415, 227	-----	415, 227	340, 667	103, 784	161, 858	75, 025	74, 560
1937.....	411, 969	-----	411, 969	332, 748	102, 896	149, 674	80, 178	79, 221
1938.....	390, 746	-----	390, 746	323, 055	96, 660	147, 755	78, 640	67, 691
1939.....	424, 136	-----	424, 136	356, 383	103, 753	167, 697	84, 933	67, 753
1940.....	404, 151	-----	404, 151	332, 103	102, 383	151, 944	77, 776	72, 048
1941.....	498, 382	15, 285	483, 097	400, 679	120, 519	184, 915	95, 245	82, 418
1942.....	483, 870	40, 875	442, 995	367, 834	102, 100	181, 685	84, 049	75, 161
1943.....	465, 397	46, 885	418, 512	314, 605	83, 928	153, 203	77, 474	103, 907
1944.....	467, 931	50, 485	417, 446	264, 128	66, 121	117, 024	80, 983	153, 318
1945.....	491, 114	47, 221	443, 893	272, 152	65, 409	120, 149	86, 594	171, 741
1946.....	528, 963	3, 190	525, 773	389, 282	103, 141	180, 319	105, 822	136, 491
7 months 1946.....	313, 787	2, 314	311, 473	231, 829	60, 678	107, 049	64, 102	79, 644
7 months 1947.....	263, 605	(²)	263, 605	230, 111	61, 239	109, 291	59, 581	33, 494
Percent changes:								
1936-46.....	+27. 4	-----	+26. 6	+14. 3	-0. 6	+11. 4	+41. 0	+83. 1
1936-40-1946.....	+29. 3	-----	+28. 5	+15. 5	+1. 2	+15. 7	+33. 4	+88. 9

¹ Includes youths' and boys', misses' and children's, and infants' shoes with leather uppers.

² Includes all types of shoes with part-leather and nonleather uppers, athletic shoes, house slippers, beach sandals, and miscellaneous footwear (ballet slippers, etc.)

³ Not separately classified, but included with leather uppers, probable quantity about 1.4 million.

Source: Compiled by Tanners' Council from data published by Bureau of the Census, Department of Commerce.

In 1946 the per capita output of leather shoes was only slightly higher than in 1936, notwithstanding the tremendous pressure of demand induced by abnormally low retail stocks and by consumer efforts to make up curtailed purchases during rationing. Furthermore, a large part of the gain in production during 1946 over 1936 was in infants', children's and boys' shoes. A rise in the birth rate during recent years has reversed population trends and increased the ratio of children to total population. Per capita output of men's leather shoes during 1946 was substantially lower than in 1936. Consequently, there has been no important change in retail stocks and, since children's shoes cannot be used to increase personal wardrobe stocks, there would not seem to have been any increase in consumers' supplies of wearable shoes.

If the prewar level of per capita leather supplies, based on 245,000 hides per million population in 1936, were to be maintained, the new supply of leather in 1947 would have to be 35,352,000 equivalent hides. According to available data for the first 8 months of 1947, the new supply of hides and skins in 1947 (domestic less exports plus imports) will not exceed 33,874,000 equivalent hides. Raw material supply is the direct limiting factor in shoe production, and the scarcity of supply in relation to potential demand explains the inflation of hide prices noted in this report.

3. *Reduced supplies reflected in hide prices.*—The pressure of domestic shoe and leather as well as foreign demand on limited supplies has been reflected in a very sharp price advance since decontrol in October, 1946, an advance exceeded only by the inflation which occurred in 1919–1920. Most cattlehides have risen at least 100 percent, while light native cows, calfskins and kips, suitable for the finer grades of upper leather, have increased even more. Prices of these raw materials at various dates, in cents per pound, are as follows :

Table 4.—Hide and Skin Prices

[In cents per pound]

	Oct. 30, 1946	Jan. 1, 1947	June 1, 1947	Oct 10, 1947
Branded steers.....	14½	24½	22	52½
Kip.....	20	33½	47	34
Light native cows.....	15½	25	25½	90
Light calf.....	23½	55	65	80
Heavy calf.....	27	62½	65	

All the available information indicates that there is no present accumulation of hides or skins in the hands of packers, collectors or tanners. The cattlehide tanning industry at the end of August held less than a month's supply of raw hides, an abnormal and dangerously low quantity for an industry which must have minimum reserve stocks to assure continuity of operation. Finished leather inventories in tanners' hands by the end of August 1947, were lower than at any other peacetime date and scarcely changed from the rock bottom level to which stocks were drained during the war in 1943.

Table 5.—Tanners' Finished Leather Inventories

[In thousands]

	Monthly average 1936–41	Aug. 31, 1947	Percent change
Cattlehides (hides).....	3, 548	1, 232	—65.3
Calf and kip (skins).....	2, 581	498	—80.7
Goat and kid (skins).....	11, 999	2, 686	—77.6

The practical inference to be drawn from present minimum inventories of raw hides and skins on the one hand and leather on the other is: There is no buffer of supply to cushion markets against pressure of domestic demand. It is doubtful whether the total supply of raw material and leather in the United States on August 31, 1947, exceeds the bare quantity needed to keep the pipelines full of working inventory.

In 1947 the United States will have an export balance in both cattlehides and calfskins compared with substantial and normal pre-war net import balances. The principal reason for this condition is the removal of export restrictions by the United States and the failure of other countries to follow suit. In addition, preclusive buying arrangements within the British Empire, embargoes and government controls in Argentina and elsewhere have prevented the free movement of hides and skins into international trade.

It may be noted that cattlehide imports by the United Kingdom have been exceptionally large this year and for the first 7 months exceeded 1938 imports by 80 percent. (Official United Kingdom Trade Returns.) Complete statistics for other European nations are not available but a comparable situation may be surmised. Argentine exports, for example, to Italy and Holland for the first 8 months of 1947 were considerably larger than the average for prewar years. Existence of subsidy schemes in the United Kingdom and several other European countries have permitted them to purchase hides freely in world markets. France, Holland and Scandinavia have retained for internal consumption the lightweight calfskins which normally were exported. It may also be noted that according to the Department of Agriculture, cattle herds in Europe are practically as large as prewar. (Foreign Agriculture Circular, April 7, 1947.)

4. *Imports and United States consumption levels.*—Domestic production of hides and skins in the United States has been and must continue to be supplemented by substantial imports. This is demonstrated in table I giving annual net imports of cattlehides, calfskins and kips, and goat and kidskins. The aggregate excess of imports over exports is shown in terms of equivalent cattlehides to provide a comparative measure of the annual deficit which must be met by imports of raw materials.

Table 6.—Excess of Imports Over Exports, Principal Types of Hides and Skins, by Years and Classes

[In thousands]

	Cattle hides	Calf skins and kips		Goat and kid skins		Total equivalent cattle hides
		Skins	Equivalent hides ¹	Skins	Equivalent hides ²	
1936.....	2,692	2,316	579	46,721	5,840	9,111
1937.....	2,074	2,118	529	51,813	6,477	9,080
1938.....	567	2,983	746	29,937	3,742	5,055
1939.....	2,719	3,717	929	39,017	4,877	8,525
1940.....	4,219	2,005	501	40,153	5,019	9,739
1941.....	8,549	3,511	878	49,470	6,184	15,611
1942.....	6,035	2,379	595	36,671	4,584	11,214
1943.....	4,548	2,425	606	35,428	4,429	9,583
1944.....	2,958	1,822	450	29,092	3,636	7,074
1945.....	747	909	227	24,360	3,045	4,019
1946.....	102	434	108	28,688	3,586	3,796
1947.....						
First 8 months.....	—648	—36	—9	24,582	3,073	2,416
Annual basis ³	—972	—54	—13	436,873	4,609	3,624

¹ 4 skins equal 1 hide.

² 8 skins equal 1 hide.

³ 150 percent of first 8 months.

⁴ Projection to annual basis ignores chaotic conditions in India, the principal source of supply, which may reduce 1947 imports several million from projected figure.

Note: Minus sign indicates excess of exports over imports.

It should be noted that the foregoing table is based on the data for the three major types of raw material employed in footwear and other highly essential products and does not take account of various other types of miscellaneous hides and skins which are required for goods of less essential character.

5. *Prospective leather supply.*—The present shortage of raw materials would have been more serious except for the fact that we are currently enjoying favorable cattle kill. Domestic slaughter of cattle

for 1947 is expected to total approximately 23 million. This compares with a prewar average of slightly more than 16 million and has tended to alleviate the decline in imports of raw materials. In the five prewar years from 1936 through 1940, this country annually had a net import balance of 2.5 million hides, and a slightly larger net import balance of calfskins and kips. We are entirely dependent upon imports for our goatskin supplies, which in the 1936-40 period averaged more than 41 million skins.

Based on the first eight months we will have a net export balance in 1947 of about 1 million cattlehides, and a small net export balance of calfskin and kips. Goatskin imports are currently at the rate of 36 million per year, but unsettled conditions in India, which is our principal source of supply, imperil the maintenance of this rate.

Estimated cattle and calf slaughter in 1948 will probably be considerably lower than in 1947. According to the American Meat Institute, the cattle slaughter next year will decline to approximately 21.5 million from 23 million this year. It is estimated by other trade sources that a parallel reduction in calfskins and kips would mean a net reduction in domestic new supply of approximately 2 million equivalent hides below the 1947 level. Curtailment of goatskin imports from India would further decrease the net addition to United States supply.

6. *Military factors.*—No account has been taken in the foregoing analysis of the fact that present annual leather requirements of the armed forces are very much larger than prewar due to the maintenance of a greater military establishment by the United States. It should also be pointed out that the total available inventory of raw hides and skins, leather in process and finished leathers are far lower than in any prior peacetime year. Hence, in the event of an emergency or a further expansion in military personnel, the immediate supply of leather for military and essential civilian needs might prove to be critically low.

7. *Effects of pressure on raw material markets.*—Raw material, leather and shoe prices are today inflated as the result of relative shortage of hides and skins. Further pressure on raw materials, due to a more acute disproportion between supply and demand, might well aggravate inflationary trends. A realistic appraisal of the current status must recognize that hides and skins are approximately 55 percent of the cost of finished leather; and that leather represents 50 percent of the cost of shoes. Changes in hide and skin prices ultimately result in proportionate changes in shoe prices.

Hides and skins are byproducts, of which the supply is not determined by demand but by slaughter. An excess of demand over available limited supply creates disproportionately sharp market price changes evident in price cycles such as was experienced at the end of World War I when cattlehides reached 65 cents per pound. It would appear that supply and demand are currently unbalanced. Any further pressure of demand on limited supplies would increase the danger of sharp inflationary developments in hides, skins, leather and shoes.

8. *Summary.*—The United States is a hide and skin importing Nation because domestic resources alone are not adequate to maintain prewar levels of shoe and leather consumption.

Temporarily large domestic cattlehide supplies in 1947 have scarcely been sufficient to offset curtailed imports. Sharp price ad-

vances in hides and skins, leather and shoes reflect the unbalance of supply and demand.

Available inventories within the United States are lower than in any other peacetime year, probably as low as can be maintained without creation of bottlenecks.

While per capita output of leather shoes in 1946 and 1947 was slightly higher than prewar, practically all the increase was accounted for by children's footwear. Per capita output of men's shoes during 1946 and 1947 was lower than prewar.

Prospective domestic leather supplies in 1948 and the next several years are likely to be reduced because the peak of the United States cattle cycle seems to have been passed. Unless imports can be increased, the net available new supply for the United States during the next few years seems likely to fall below the level needed to meet prewar standards of consumption for leather shoes. Military requirements are larger in 1947 than in prewar years and may well continue at a high rate.

Unbalanced supply has resulted in sharp price increases all along the line from raw material to finished shoes. This has been particularly marked since the elimination of export restrictions June 1, 1946 leading to an increase in exports. To leave the United States a net exporter of cattlehides and calfskins instead of a net importer, might result in further price increases and a reduction in per capita consumption of leather and shoes. It should be recalled that under somewhat comparable conditions at the close of the first world war hide prices in 1920 reached 65 cents per pound.

Any increase in the abnormally large current rate of export of hides and leather might have highly disadvantageous inflationary tendencies. The advisability of suitable export and allocation controls should be carefully appraised.

All reasonable pressure should be used to secure a free flow of hides from the South American countries, particularly from Argentina, into world trade.

Report on Pulp and Paper

I. Production

Supplies of wood pulp and paper in the United States, in general, while greatly improved over last year, are still inadequate to meet all consumption requirements. This shortage condition has existed since the early days of the war in varying degrees. Domestic production has increased tremendously since 1945 so that in 1947 paper and paperboard output will be 55 percent or 7,500,000 tons more than in 1939. The monthly trend in domestic production has been generally upward since VE-day with the advent of new equipment and new capacity, together with larger pulp output, increased pulp imports from Canada and a resumption of pulp imports beginning in the summer of 1945 from Northern Europe, especially Sweden. In fact estimated United States 1947 production of paper and board will be about 21 million tons compared with about 17.4 million tons in 1945.

With additional domestic pulp and paper capacity coming into production in near future months it is believed that around the Spring of 1948 supplies of most grades of paper (excluding newsprint) will approximate domestic consumption requirements. Assuming that the total United States economy will continue at peak levels through 1948, which would mean some additional expansion in paper requirements, it may be estimated that both pulp and paper supplies will just about balance customer's needs during 1948.

This estimate, however, assumes that there will be no material increase in exports of pulp, paper or paper products from the United States nor that there will be any substantial change in the relative volume of pulp and newsprint imports from Canada, Newfoundland and Northern Europe. If pulp imports were materially reduced in 1948 from the estimated 1947 level of around 2.4 million tons, it would result in a serious curtailment in operations of United States paper mills depending in whole or in part upon purchased market pulp. These United States paper mills make large percentages of many important grades of paper essential to the United States economy.

Newsprint is the only major item which is expected to continue in substantially short supply throughout 1948. It will be at least 1949 or 1950 before the new newsprint mill now under way at Childersburg, Ala., will be in production. New newsprint machines in Canada and Newfoundland may come into production somewhat earlier. The Alaskan prospectus may or may not result in a newsprint mill; if it does, it will be at least 1950 before output could be placed upon the market. No noticeable relief is anticipated from Northern Europe newsprint production in the next couple of years.

II. Exports

There is no significant interference with industrial activity in the United States due to lack of pulp and paper products and, in general, demand is being satisfied.

On the basis of estimated 1947 United States production, and with paper and paperboard exports ranging around 355,000 tons for the year, exports will be about 1.4 percent of production compared with 1.5 percent to 2 percent in prewar years. In view of some increase in production in 1948, it should be possible to increase exports by an additional 1 percent or 2 percent of production. This would mean exports of paper and paperboard in 1948 would total about 665,000 tons.

If the increase in exports were all directed to Europe, plus a possible switch of some tonnage now going to other destinations, the total available for Europe would be about 350,000 tons.

It is estimated that a similar percentage increase in paper products (shipping sacks, bags, shipping containers, etc.) will be possible if United States production reaches expected levels. With respect to converted paper products the United States will export in 1947 about 120,000 tons; this could be raised to a total of about 250,000 tons in 1948.

III. World Situation

The world's pulp and paper supply-requirements picture is more out of balance than that of the United States. The general upheaval of industrial and economic activity in Europe, U. S. S. R., Japan, China, the United Kingdom, and to a lesser degree India and other British dominions, has resulted in sharply curtailed production as well as consumption compared to prewar. In Europe coal is the major element retarding larger pulp and paper production in Sweden, Norway, and Finland and to a lesser degree on the continent. On the continent most mills find it difficult to procure not only necessary raw materials (pulpwood, pulp, coal, and chemicals) but also machinery parts and equipment.

Notwithstanding the lower level of economic activity in many foreign countries as cited above, the actual requirements of pulp and paper are substantially above available supplies.

More specifically, Sweden, Norway, and Finland are currently the major sources of pulp and paper production and exports in the European area although before the war Germany, France, Belgium, the Netherlands, England and a few other European countries were significant exporters of paper but not of pulp. It is known that about 20 percent of Finnish capacity is now in territory ceded to the U. S. S. R., while the mills in the Baltic countries (Latvia, Lithuania, and Estonia) are also now a part of the U. S. S. R. Russia continues largely as self-sufficient, neither a notable exporter nor importer. Norway, although a significant producer and exporter of pulp and paper, is far outranked by Sweden and Finland. It is estimated that Swedish, Finnish and Norwegian pulp mills are currently operating at from 50 to 70 percent of capacity. Particularly in the case of Sweden, production could be stepped up greatly if sufficient coal, and perhaps certain chemicals, were available.

Before the war Germany was the world's fourth largest producer of wood pulp and the third largest consumer in the manufacture of paper, paperboard and rayon products. Reports indicate that the Russian occupied zone now comprises around 60 percent of prewar pulp and paper production, leaving around 40 percent in the United States, British and French Zones. Recent reports indicate that pulp and paper mills in the United States zone are only able to operate at about 35 percent of prewar output because of lack of pulpwood, coal and manpower. A substantial part of present chemical pulp output is stated being diverted to rayon for use in textiles. Pulpwood is a particularly serious problem because a large part of prewar supplies were obtained from eastern Germany, Finland and Russia, while currently it is understood that none is coming in from those sources. The lack of coal is also causing the use of more wood for fuel. If these problems could be overcome Germany could again be an important factor in pulp and paper production for her own use as well as to export to other European countries. In prewar years Germany was a very important paper exporter.

Both pulp and paper output of several continental European countries could be increased if machinery parts were procurable and supplies of raw materials, such as pulpwood, pulp, and chemicals, were accessible. Numerous continental paper mills, however, such as in the Netherlands, Belgium, France, as well as England, depend largely upon imported pulp. Until Northern European pulp mills are able to step up production materially, pulp supplies will be short to meet all foreign requirements from that important pulp producing and importing region. Besides continental Europe and the United Kingdom, there is a strong demand for Northern European pulp from the United States, Mexico, several South American countries, Australia, New Zealand, India, and China, as well as Japan. Not only is paper grade wood pulp in short supply but also dissolving grades of wood pulp as used for rayon, cellophane, plastics, etc. As a consequence, therefore, the world's supply of pulp and paper in general is currently, and prospectively for 1948, insufficient to meet all consumption requirements. Assuming, however, a general world betterment in basic raw materials such as coal, improved transportation and industrial rehabilitation in the war-torn countries, coupled with increased production of pulp and paper in North America, it is possible that by 1949 the current tight world situation may be mostly alleviated. In fact by 1949 the United States may be able to materially increase exports of paper and paper products, but not of pulp. For the next few years the United States will require approximately the same volume of pulp imports to maintain the pulp purchasing paper mills in full operation, as well as the rayon and other mills using dissolving pulps, as is being currently imported, namely approximately 2.4 million tons.

IV. Effects of Pulp Diversion

Any program which would direct Northern European or Canadian pulp away from the United States, or in other words take United States buyers out of a free competitive market, would have the effect of discriminating against some 350 United States paper mills (about half of total United States paper mills) which depend in whole or in substantial part upon purchased market pulp. It would place these

mills at a great disadvantage with their competitors since the paper mills integrated with their own pulp would presumably find a stronger market under such conditions and would be able to operate at full capacity against the nonintegrated mills' curtailed operations.

A similar situation would face United States rayon mills and other industries using nonpaper grade pulp (known as dissolving pulp) since of total United States consumption of dissolving pulp about 40-50 percent is imported, principally from Canada but with smaller quantities from Northern Europe.

V. Possible Solution

The solution to the European shortage of pulp and paper (as well as the Japanese and Chinese situation) does not seem to lie in directing supplies away from existing consumers such as the United States, Mexico, South America, Australia, New Zealand, and the United Kingdom. Instead, it would seem the solution is to take aggressive steps aimed to increase production of pulp in the Northern European countries and to rehabilitate production in continental Europe, particularly Germany.

It should be noted in passing that an increase in the supply of pulp available for the Eastern Hemisphere resulting from a curtailment of United States imports would by no means save dollars. The diversion, of, say, Scandinavian supplies to the continental countries would have not only a direct impact upon dollar resources of the Scandinavian countries but, indirectly, it might adversely affect dollar resources of other European countries. Moreover, since the maintenance and even expansion of pulp shipments to the United States is one way of increasing the world supply of dollar exchange, it is especially desirable that any increase in supplies for Europe be accomplished through an increase in present production.

A further interesting observation with respect to dollar exchange is that United States imports of papermaking raw materials (pulpwood, wood pulp, rags) and paper (principally newsprint) are far larger in value than any other commodity imported into this country. Estimated value of the 1947 imports of these papermaking raw materials, paper and paper products is 476.16 million dollars.

The United States is definitely not in a position to export pulp to Europe nor to accept curtailed pulp imports. To meet pressing European needs for paper and paper products during the interim period of getting European production under way, the least harmful effects would be to increase United States exports of paper and paper products through export priority. An increase of our exports by 200,000-300,000 tons in 1948 would not seriously affect the United States economy if a fairly wide variety of grades and items were involved. Furthermore, demands from Latin America as well as the Orient, such as China and India, may be less in 1948 because of the growing tightness in exchange, so that some margin about the 1946 or 1947 level of paper and paper products exports to those areas might be directed eastward over the Atlantic.

With particular reference to newsprint, the solution appears also to rest in stimulating Northern and Continental European production. An increase in exports from the United States cannot be recommended.

Paper, paperboard and products comprise thousands of grades,

sizes, basis weights, finish and other specifications. Experience during the war indicates that distribution could be most economically effected through established trade channels. The numerous details as to specifications and other technical aspects call for the "know how" of all that is involved in the paper export-import trade. It is believed that European requirements from the United States could best be handled by channeling through established United States paper exporters and established paper importers in Europe rather than setting up Government to Government procedure for actual transactions.

Table 1.—Estimated United States Wood Pulp and Paper Supply, Exports, Imports, Etc., 1948

[In thousands of short tons]

Item	Production	Imports	Available supply	United States consumption	Available for export	Current rate of exports (1947)
Total paper and board.....	21,800	4,060	25,860	25,195	665	355
Paper, except newsprint.....	10,150	200	10,350	10,000	350	200
Newsprint ¹	850	3,800	4,650	4,615	35	25
Paperboard ²	10,800	60	10,860	10,580	280	130
Total paper products ³	12,000	10	12,010	11,760	250	120
Total wood pulp.....	12,500	2,300	14,800	14,610	190	135
Paper-grade pulp ¹	12,160	2,050	14,210	⁴ 14,060	150	120
Dissolving-grade pulp ¹	340	250	590	550	40	15

¹ Exports consist of minimum supplies to former established customers; new customers in general cannot be accommodated.

² Includes building boards and wet machine board.

³ Does not include products of printing and publishing industry.

⁴ Includes some essential inventory replenishment by non-integrated mills.

Report on the Chemical Industry

The chemical industry manufactures a wide variety of products. A large proportion of these are essential raw materials for further industrial processing. Chemical productive capacity, on the whole, is larger than prewar and available evidence indicates a continued expansion during the next several years. While United States exports of chemicals in 1947 are, in most cases, only a small fraction of total production, aggregate shipments are two to three times the prewar volume. Nevertheless, foreign demands remain far from satisfied. This is because European production, while increasing, has not reached prewar levels. The following table compiled from data furnished by the Krug committee, is designed to show at a glance the situation with respect to: (1) the output in 1947 of some basic chemicals; (2) prospective increases in production in 1948; (3) the percentage of the production now being exported.

Commodity	Estimated United States output in—			United States exports of 1947 output to—	
	1947		1948	European countries (percent)	Rest of world (percent)
	Percent of capacity	Million pounds	Million pounds		
Soda ash.....	100	9,400.0	10,400.0	0.02	2.2
Caustic soda.....	100	4,000.0	4,800.0	.5	4.5
Carbon black.....	100	1,270.0	1,200.0	15.7	7.9
Coal tar dyes.....	100	180.0	185.0	5.0	20.0
Phenol.....	100	240.0	250.0	6.0	
Benzol.....	100	1,460.0	1,497.0	1.4	.1
Glycerin.....	100	200.0	230.0	2.0	

With few exceptions, current production is close to attainable capacity. Domestic demand for many chemicals is larger than present output; in some cases production barely meets requirements; in only a few cases are there surpluses. Large backlogs of orders and small inventories prevail.

Requirements of chemicals were not given in the CEEC Report, but estimates have been made that indicate that the total demand in 1948 on the United States may be in the neighborhood of 260 million dollars. As the total estimated output of the United States' chemical industry is around 9 billion dollars annually this figure represents a very small portion of the total. Shortages of some specific commodities, however, will make it difficult to meet European needs for these items, and it will be necessary to examine what steps can be taken to make additional quantities available.

Exports of chemical products to other areas than Western Europe are in most cases very small and the amount that could be diverted

of negligible significance. Two important exceptions are coal tar dyes and carbon black. While some of this trade might conceivably be diverted, there is a much better solution to the coal tar problem. Coal tar derivatives are a byproduct of cooking for the iron and steel industry; hence the production of these chemicals will automatically expand as the coal and metallurgical industries recover. It would not be sound economically for such countries to incur the high costs involved in importing coal tar byproducts.

Some expansion of exports might be obtained through some voluntary domestic rationing by producers with a view to reducing consumption for relatively unimportant purposes. Whether such a reduction in domestic consumption is essential depends upon the nature and urgency of foreign demands—about which we have no data. A tightening of the export licensing system might also be helpful in reducing aggregate demand.

Availability of Chemicals for Export

Commodity	Principal use	Problems in Expanding Exports by 50 percent	Effect on domestic economy of expanding exports	Anticipated plant expansion over 1947 production	Comments
Soda ash.....	Industrial raw material.	No great difficulties because exports are small.	Raw materials are plentiful but about 15 percent of domestic demand remains unsatisfied.	27 percent increase by end of 1952.	Backlog of domestic orders increasing for alkalis. Industry rationing and drying up of black market leakages would provide additional supplies for western Europe. Increase in European coal production must be achieved.
Caustic soda.....	do.....	Inadequate production facilities and lack of containers.		45 percent increase by end of 1952.	British and French rubber manufacturers are not hampered by lack of carbon black. Through industry reallocations, amount available for export may soon increase.
Carbon black.....	Rubber goods.....	Would require plant expansion.	No drain on resources.....	None by end of 1952.....	Increase in European coal production is the key to its problem. Same as comment on "Crudes and intermediates."
Coal tar crudes and intermediates.	Industrial raw material.	Shortage of coal for intermediates and processing capacity.	Domestic demand is unsatisfied.		
Coal tar dyes.....	Textiles leather, paints.	Same as for "coal tar dyes".....			
Phenol.....	Industrial raw material.	The necessary domestic re-allocations would not prove a hardship.			
Benzol.....	Industrial raw material.	Raw materials (fats and alkali), are short.	Domestic demand and supply roughly in balance.	10 percent increase by end of 1950.	Same as for "Crudes and intermediates."
Glycerin.....	do.....	Raw material shortage.....	Because exports are small, expansion would not be drain.	10 percent increase by end of 1950.	Do
Nicotine insecticides.....	Agriculture.....	do.....	Would be at expense of domestic consumers.	15 percent increase by end of 1948.	Organic chemical substitutes may be substituted. Inventories small. Same as for "Nicotine insecticides."
Arsenical insecticides.....	do.....	do.....	Same as for "Nicotine insecticides."		
Peaucillin.....	Medicinal.....	No problem.....	None.....		Adequate capacity Britain in production, France increasing production.
Streptomycin.....	do.....	No great problem.....	do.....	Some expansion under way.	

Report on Rubber

I. Rubber Consumption

The rubber industry was the first one of major importance in the United States to complete reconversion, return to competitive conditions, and meet the domestic demand. An index of the ability of the rubber industry to manufacture rubber products of all types is the amount of rubber consumed. The United States normally accounts for one-half of the world rubber consumption. The total of new rubber consumed in the United States in 1946 was 1,039,000 long tons. In 1947, the United States will consume about 1,045,000 tons, of which 1,005,000 tons will be used in products for domestic use only. Domestic requirements during the year 1948-51 will average 862,000 tons or 14.2 percent below the 1947 rate of 1,005,000 tons. Despite this projected decline from the postwar peak, the estimated annual consumption of rubber during the 1948-51 period will be 40 percent higher than the annual consumption during the 1939-40 period.

II. Transportation Items

While there are over 30,000 rubber products made in the rubber industry in the United States, transportation items (tires, tubes, and allied products) normally account for about 70 percent of the nation's rubber consumption. The industry maintains complete statistical data on this important part of its output, and the basic data relevant to domestic requirements and amount available for export are presented in table 1.

The production of passenger-car, truck and bus tire casings during 1946 and 1947 exceeded the production of 1939 and 1940 by about 46 percent. It is estimated that the annual production during the 1948-51 period will exceed the 1939-40 average by 25 percent. The data in table 1 indicate that even if domestic plants operate only 250 days each year, the quantities of tires, tubes and other transportation items available for export will exceed the current rate of export by over 100 percent.

III. Items Other Than Transportation Items

Of all the 30,000 products manufactured in the rubber industry, conveyor belting is the only major rubber product that will be in short supply by the end of 1947. The present demand for conveyor belting is so large that new orders are equalling current production, and there is an order backlog equal to at least seven months' production. Exports of this commodity during the first 6 months of 1947 were equal to 7.3 percent of total production in the same period. There will be some increases in capacities by the end of 1947, but even so

conveyor belting will be in short supply in 1947 and 1948, and probably for the next few years.

IV. Raw Materials Availability

The supply of crude rubber will be insufficient to meet world requirements in 1947 and 1948. There are ample production facilities for American-made and available raw materials in the United States to supply the deficiency in crude rubber. Production facilities for reclaimed rubber were expanded during the war and no difficulty should be experienced in meeting the demands of other countries for this material. Based upon estimates of crude rubber availability, exports of American-made rubber could be at least three times the current rate without requiring an increase in the current domestic production of GR-S or other types of American-made rubber.

Carbon black, a major raw material used in manufacturing rubber products, practically all of which is produced in the United States, has been in short supply during 1946 and the first half of 1947. Furnace black is in ample supply but the demand for channel black, which is preferred for crude rubber, is still equal to our capacity to produce.

The United States capacity for all types of carbon black is about 116 million pounds per month. During the second quarter of 1947, the United States exported 23.4 percent of the total amount of carbon black produced in the country. World needs for carbon black can be satisfied from the combined production of channel black and furnace black, but the ratio of channel black to the total cannot be as high as rubber manufacturers throughout the world would prefer.

V. Government Stockpiling

Crude rubber is one of the raw materials essential for national security. The United States Government now owns a substantial stockpile of crude rubber. This amount can be increased at some future time when there is no deficiency in supply and no danger of additional government purchases contributing to inflation. Government purchases for stockpiling purposes could help offset some of the cost of rehabilitation in Great Britain and Holland, the principle sources of crude rubber.

Table 1.—Rubber Products and Rubber Consumption: United States Capacities, Requirements, and Quantities Available for Export
[In thousands]

Type of product	Capacities in units 250-day year	Domestic requirements in units			Available for export				Current annual rate of exports	
		1947	1948	Average year 1948-51	Against 1948		Against average year 1948-51		Units	Percent capacity
					Units	Percent capacity	Units	Percent capacity		
1. Passenger car tires	70,059	69,511	61,425	60,520	8,634	12.3	9,539	13.6	1,688	2.4
2. Truck-bus tires	15,903	15,144	10,675	10,125	5,128	32.4	5,678	35.9	1,693	10.7
3. Tractor-implement tires	4,516	4,866	4,323	4,107	1,093	4.3	409	9.1	143	3.2
4. Tractor-implement pneumatic tires	1,170	1,522	1,130	1,074	40	3.4	96	8.2	32	2.7
5. Airplane tires	240	137	170	222	30	15.0	80	33.3	18	9.0
6. Motorcycle tires	240	180	180	160	60	25.0	23	9.6	23	9.6
7. Bicycle tires	10,100	8,500	8,500	8,000	1,600	15.8	2,100	20.8	414	4.1
8. Solid tires	1,900	1,169	940	900	960	50.5	1,000	52.6	6	.3
9. All tubes except bicycle	98,000	80,000	70,000	68,000	28,000	28.6	30,000	30.6	3,252	23.2
10. Camelback—long tons	83,000	36,600	34,000	33,000	49,000	59.0	50,000	60.2	3,925	4.7
11. Hose—all types	—	—	—	—	—	—	—	—	—	6.4
12. Belting except conveyor	—	—	—	—	—	—	—	—	—	10.3
13. Conveyor belting	—	—	—	—	—	—	—	—	—	7.3
Rubber consumption—long tons:	—	—	—	—	—	—	—	—	—	—
Crude plus American-made	970	1,005	833	862	87	9.0	108	11.1	—	—
Reclaim	250	285	230	232	10	4.0	13	7.2	—	—

NOTES

"Capacities" for items 1 through 5 are totals assembled by RMA for the present pattern of production; item 6 through 10 are largely the actual output for March 1947, converted to a 280-day year.

"Domestic Requirements" are the 8-20-47 estimates of the RMA Statistical Committee.

"Current Annual Rate of Exports" is the actual for the first 6 months of 1947 times 2, except that Hose and Belting figures are the percent of dollar value of export shipments to total shipments.

Because of interchangeability of production facilities, any shortage of tractor-implement, industrial pneumatic or airplane tires which might develop, could easily be filled from facilities currently devoted to the production of passenger car and truck-bus tires.

PART FOUR: APPENDICES

Appendix A

Offset Imports of Strategic Materials for United States Stockpiles

A. General

Many of the colonial possessions of the countries participating in the European recovery program have deposits of strategically important metals and nonmetals which could be drawn upon to fill United States needs for such materials. The Stockpiling Act of 1946 provides for the expeditious acquisition of adequate stocks of certain strategic raw materials the domestic production of which is insufficient to meet emergency requirements. Approximately \$275 million dollars has been apportioned by Congress for new procurement. Completion of anticipated purchases in 1948 will result in achievement of about 20 percent of the present overall minimum stockpile objectives in terms of value of materials. Taken item by item the purchase program to date has been very unbalanced and acquisition of many of the major strategic raw materials has been negligible. Fulfillment of provisions of the Stockpile Act can be accomplished only if production of certain of these strategic materials is expanded above present levels and the resulting increase made available for shipment to the United States.

The following recommendations are made:

a. Legislation extending aid for European Economic recovery should include specific provisions for procuring strategic raw materials for the stockpiling program from the participating countries or their colonies.

b. Due to the scarcity of precise quantitative data, a complete investigation of each of the individual commodities discussed on the following pages should be undertaken immediately to determine the relative availability of supplies from each country, and the most economically and politically feasible method of procurement.

The following tables contain data by countries on the strategic mineral raw materials which appear to be available from the Marshall Plan countries. Because of the many estimates required to complete the tables the compilations are useful only as a broad indication of the magnitude of possible imports of strategic materials to offset the European aid extended by the United States. With comparatively small increases in production, which in most cases would require reaching but not exceeding wartime peak outputs, strategic mineral raw materials valued at approximately 2,231 million dollars annually could be made available.

B. Review of Possible Imports by Commodities

1. *Bauxite*.—There is no shortage of bauxite and the output from the Guianas and the Netherland Indies is limited only by available markets and existing plant facilities.

2. *Cobalt*.—The Belgian Congo is the world's chief source of cobalt and the Union Miniere de Haut Katanga virtually controls the market. Production, which is from cobalt and copper-cobalt ores, was expanded during the war and the present capacity is approximately 5 million pounds annually most of which is now being utilized to supply United

States stock piling contracts. Reserves appear adequate to justify an additional 1 million pounds expansion in capacity providing present market conditions continue:

The second largest producer is Northern Rhodesia. Cobalt output in 1945 was about half the peak production of over 3 million pounds in 1939. Reattainment of the 1939 output would make available an additional 1 million pounds annually.

French Morocco is a substantial source of cobalt but expansion of production is not likely due to the metallurgical problems involved in the extraction of the cobalt from the complex gold-cobalt ore in which it occurs.

3. *Copper*.—Production of copper from foreign mines in the Marshall Plan countries in 1946 was at little more than two-thirds of their aggregate capacity as measured by recent peak outputs.

4. *Metallurgical grade chromite*.—In Southern Rhodesia, a major ore supplier, about 300,000 tons of ore have accumulated at the mines because of serious transportation difficulties, particularly in connection with the railroad from the mines to port. If the bottleneck can be eliminated at least 100,000 tons annually might be acquired from the mine stocks for United States stockpiles.

Present chromite production in Turkey is about 100,000 tons annually. Reserves at the Gulistan mine are large and with the installation of certain equipment, output could be advanced about 40,000 tons.

Forced-draft production of chromite in New Caledonia could conceivably add another 10,000 tons to the existing 50,000-ton annual rate of output.

5. *Industrial diamonds*.—Industrial diamonds are produced mainly in the Belgian Congo with some production from the Gold Coast and Sierra Leone. The diamond cartel maintains strict and unquestioned control over the production, sale and price of industrial diamonds as well as gem stones.

In the Belgian Congo reattainment of the 1945 production of 10 million carats would make available an estimated 4 million carats above current production.

6. *Lead*.—The largest potential new supply of lead would be made available through reopening the Bawdwin mines of the British-owned Burma Corporation in Burma. Burma was the sixth largest producer of lead before the war with an output of 80,000 to 90,000 tons annually. Rehabilitation of the war-damaged mine, mill and smelter facilities have been hampered by scarcity of labor and equipment. Company officials have recently estimated that 2½ to 3 years will be required before production approaching pre-war levels can be expected.

Current lead output in French Morocco and Tunisia is at approximately prewar levels. American mining interests have recently begun development of several lead properties in these countries and it is anticipated that 25,000 tons additional production will be available beginning late 1949 or early 1950.

Resumption of lead mining in Greece, which was suspended during the war, has not yet occurred and in view of the existing political and economic problems, it seems unlikely if lead production in Greece in the next four or five years will be of sufficient magnitude to meet internal demands.

7. *Metallurgical manganese*.—Loading and port installations in the Gold Coast are adequate to handle 750,000 tons of manganese annually.

If production could be increased to this level approximately 250,000 tons would be available for stockpile acquisition.

8. *Battery-grade manganese.*—In the Gold Coast a 25 percent increase in output equivalent to 10,000 tons annually would likely result as a consequence of increased production of the metallurgical manganese ores.

A 25-percent expansion of output from Gold Coast and Sierra Leone would result in 500,000 carats of additional production.

9. *Tin.*—Tin production in the Far East virtually ceased with the Japanese occupation. Rehabilitation of equipment and replacement of dredges will not be completed until the end of 1948, and production at prewar levels is expected by late 1949. If this rate is maintained for the years following it is possible that a substantial quantity of tin can be diverted to the United States stockpile without restricting industrial requirements.

10. *Tungsten.*—A normal production of about 3 million pounds of tungsten annually is possible in Portugal at comparatively high costs. Tungsten output reached 7,500,000 pounds in 1943 as a result of purchases by the United States.

11. *Zinc.*—Zinc is not now considered in short supply but it included in this discussion as one of the materials classified as strategic by the Army Navy Munitions Board.

Some 50,000 tons of zinc will be produced annually at the Bawdwin mine in Burma if operations are resumed.

No zinc will be available from Belgium as virtually all the zinc ores are imported and consequently require expenditure of foreign exchange.

Zinc production in Italy has not reached the point where a surplus is available for export.

Other materials.—Asbestos, columbite, corundum, graphite, mica, nickel, and tantalite are of minor importance in the countries and colonies participating in the European recovery program. Estimates of increased output are extremely conservative and require only a relatively small advance over current output.

Estimated Annual Value of Additional Strategic Material Production of Marshall Plan Countries Available for United States Stockpile

[In thousand of United States dollars based on current market prices]

Commodity	United Kingdom	Netherlands	Belgium	France	Others	Total
Asbestos.....	\$975					\$975
Bauxite.....	6,000	\$14,400		\$2,400		22,800
Chromite.....	4,150			400	\$1,600	6,150
Cobalt.....	1,500		\$1,500			3,000
Columbite.....	670					670
Copper.....	20,000		8,000		4,000	32,000
Corundum.....	325					325
Diamonds, Ind.....	2,500		20,000			22,500
Graphite.....	92					92
Lead.....	16,550			7,500		24,050
Manganese.....	7,850			240		8,090
Mica.....				134		134
Nickel.....				875		875
Tantalite.....			240			240
Tin.....	51,200	34,200	3,400			88,800
Tungsten.....					4,500	4,500
Zinc.....	8,000					8,000
Present annual stockpile purchases.....	119,812 3,135	48,600 7,300	33,140 6,072	11,549 100	10,100 600	223,201 17,207

Output and Available Quantities of Stock Pileable Materials

Country and commodity	Unit	Estimated 1947 output	Estimated annual peak productive capacity	Present annual rate U. S. stock pile purchases		Estimate available for U. S. stock pile	
				Quantity	Value	Quantity	Value
Belgium (Belgian Congo):							
Cobalt.....	Pounds.....	5,000,000	6,000,000	4,000,000	Thousands of dollars 6,000	1,000,000	Thousands of dollars 5,000
Copper.....	Metric tons.....	180,000	200,000			20,000	8,000
Ind. diamonds.....	Carats.....	6,000,000	10,000,000			4,000,000	20,000
Tantalite.....	Pounds Ti_2O_5	200,000	350,000	30,000	72	100,000	240
Tin.....	Long tons.....	17,000	20,000			2,000	3,400
Zinc.....	Metric tons.....	35,000	75,000				
France and colonies:							
Bauxite (French Guiana).....	Long tons.....		200,000		6,072		33,140
Chromite, metallurgical (New Caledonia).....	do.....	50,000	60,000			200,000	2,400
Graphite, flake (Madagascar).....	Metric tons.....	2,000	4,000			10,000	
Lead (Morocco, Tunisia).....	do.....	40,000	65,000				7,500
Mica (Madagascar).....	Pounds.....	400,000	600,000	150,000	100	200,000	134
Manganese, battery (Morocco).....	Long tons.....	5,000	10,000			5,000	240
Nickel (New Caledonia).....	Pounds.....	17,500,000	20,000,000			2,500,000	875
Netherlands and colonies:							
Bauxite (Surinam).....	Long tons.....	1,500,000	2,000,000	475,000	5,700	975,000	11,549
Bauxite (N. E. I.).....	do.....	200,000	300,000	125,000	1,600	225,000	2,700
Tin (N. E. I.).....	do.....	21,000	50,000			20,000	34,200
Norway:							
Copper.....	Metric tons.....	15,000	20,000		7,300	5,000	48,600
Portugal: Tungsten.....	Pounds.....		3,000,000			3,000,000	2,000
Sweden: Copper.....	Metric tons.....	10,000	15,000			5,000	4,500
Turkey: Chromite, met.....	Long tons.....	100,000	125,000	15,000	600	40,000	1,600
United Kingdom and colonies:							
Asbestos, crysotile (Southern Rhodesia).....	Metric tons.....	12,000	15,000			3,000	775
Bauxite (British Guiana).....	Long tons.....	750,000	1,250,000	85,000	1,020	500,000	6,000
Chromite, ref.....	do.....	250,000	350,000			100,000	4,000
Cobalt (Northern Rhodesia).....	do.....	25,000	30,000			5,000	150
Columbite (Nigeria).....	Pounds.....	2,000,000	3,000,000			1,000,000	1,500
Copper (Northern Rhodesia).....	do.....	1,000,000	4,000,000	2,000,000	1,340	1,000,000	670
Corundum (Nyasaland).....	Metric tons.....	1,225,000	275,000			1,000,000	20,000
Industrial diamonds (Gold Coast, Sierra Leone).....	Tons.....	350	600			50,000	325
Graphite, lump (Ceylon).....	Carats.....	2,000,000	2,500,000			250	20,000
	Metric tons.....	2,000	2,500	784	145	500,000	2,500
							92

Lead (Burma).....	do.....	75,000	18,000	630	50,000	16,560
Manganese, battery (Gold Coast).....	Long tons.....	40,000			10,000	350
Manganese, met. (Gold Coast).....	do.....	750,000			250,000	7,500
Tin.....	do.....	80,000			30,000	51,200
Malaya.....	do.....					
Nigeria.....	Pounds.....					
Vanadium (Northern Rhodesia).....	Metric tons.....	50,000			40,000	8,000
Zinc (Burma).....				3,136		119,812

Appendix B

Special Interim Report on Grain Export Policy

The Committee on September 24, 1947, released the following special interim report on grain export policy.

President's Committee on Foreign Aid

1947-48 Grain Procurement Program

1. *The urgency of the problem.*—World requirements for grain during the current 1947-48 season cannot be met without the export from the United States of a larger tonnage than was exported in the 1946-47 crop year. Yet in the face of the expanded requirements it would be extremely difficult for the United States even to maintain last season's rate of export because of the reduced size of this year's corn crop. No more corn will be available for export during the present crop year. How much wheat we can acquire and export depends primarily on how much is fed to livestock, poultry, dairy, hogs, and beef. Poultrymen, dairymen, and meat animal feeders are currently making their decisions on whether to trim down the numbers in their herds and flocks or to acquire feed to carry them through the year. As the weeks pass, more and more of our wheat supply is being acquired for eventual consumption by livestock, thus increasing the difficulty of meeting export needs.

If the Department of Agriculture merely covers its needs from month to month, a situation will probably develop early next year in which it will be physically impossible to meet even reduced export commitments. It is, therefore, essential that a firm export program be formulated in the immediate future and that procurement plans be made which will assure our ability to meet whatever export commitments are undertaken. This Interim Report of the President's Committee on Foreign Aid is submitted to convey the Committee's judgment on certain of the issues involved, to draw attention to the basic questions that need to be answered, and to urge the importance of reaching decisions upon them now.

2. *West European requirements.*—The basic facts about European requirements for imported grain are these. First, Western Europe is regularly a deficit area heavily dependent upon imports of grain for human consumption and for animal feeding. Before the war, grain imports averaged over 22,000,000 tons a year, about half bread grains and half coarse grains. Second, the recovery in agricultural production since the war has been uneven and incomplete. In the ex-neutral countries and in Norway, the Netherlands, and the United Kingdom food and feed grain crops in 1946 were above prewar. But in the other Central and Western European ex-belligerent countries (which are much more important grain producers) 1946 grain crops were only about 80 percent of prewar. Third, adverse weather conditions in 1947 reduced Western European grain crops some 5 million

tons below those of 1946. Consequently, to maintain the same level of diet (in terms of calories per person per day) as in the season just ended, imports of grain into Western Europe would have to be five million tons larger. The grain production and imports of the Western European countries are summarized in the following figures. The 1947-48 import requirements stated in this table are the amounts necessary to maintain the total grain availability in 1947-48 at the same level as 1946-47. (The countries included are the Paris Conference countries other than Iceland, Turkey, and Portugal and with the addition of the three Western zones of Germany.)

Grain Production and Imports of Selected European Countries

[Million of tons]

	1933-37	1946-47	1947-48
Production:			
Bread grains.....	28.8	25.0	19.9
Coarse grains.....	22.4	21.1	21.2
Total.....	51.2	46.1	41.1
Imports:			
Bread grains.....	10.3	12.4	17.4
Coarse grains.....	8.9	4.3	4.4
Total.....	19.2	16.7	21.8

The urgency of European requirements is indicated by the following comparison between the prewar diet and the 1946-47 diet for the whole of Western Europe and for certain critical nations.

	Calories per person per day	
	1933-37	1946-47
Average entire population.....	2,830	2,470
Average nonfarm population.....	2,850	2,300
Austria, nonfarm (estimated).....	2,850	1,950
Germany, nonfarm (estimated).....	2,850	1,950
Greece, nonfarm (estimated).....	2,450	2,100
Italy, nonfarm (estimated).....	2,550	1,950
France, nonfarm (estimated).....	2,800	2,200

The above figures are not limited to nourishment received in the form of bread grain but include the calory value of all elements in the diet. One feature of the European food shortage stands out clearly. The main problem is to supply the nonfarm population, especially in the large urban centers. Thus, any measure of the average diet of the whole of Western Europe is of little significance. The urgency of the need is determined by the situation of certain groups in the populations of the five countries listed separately above, in which the discrepancy between present and prewar diets is the greatest.

3. *The world position.*—To the extent of nearly two million tons of the increase in Western European requirements is expected to be offset by an increase in the supplies available this crop year from major exporting areas other than the United States. Exports from Canada are expected to be smaller this season than last but shipments from Argentina, Australia, and other exporting countries should be larger. The world supply-demand situation is as follows (in millions of tons):

EXPORTS

	1946-47	Estimated 1947-48
Exporting areas:		
United States.....	14.7	15.0
Other areas.....	13.4	15.4
Total.....	28.1	30.4

IMPORTS

Importing areas:		
Western Europe.....	16.7	21.8
Other areas.....	11.4	11.6
Total.....	28.1	33.4

These figures indicate a world deficit of approximately 3 million tons of grain even on the assumptions that European imports are limited to the amount necessary to maintain the grain supplies of last year, that requirements from other areas are no greater than they were last year, and that U. S. can make 15 million tons of grain available for export—a possibility discussed below.

It is possible that the gap can be reduced through some reduction in the imports of areas other than Western Europe and some further increase in shipments to exporting areas other than the United States.

No careful examination has yet been made of the requirements of the non-European importing areas. The preliminary view of the International Emergency Food Committee staff is that requirements will be at least as large as last year. However, examination now in progress may reveal possibilities of diversion to Western Europe.

The major area from which there would appear to be some possibility of increasing exports is Argentina. It is estimated that stocks of all grains were some 4,000,000 tons larger on July 1, 1947, than on the same date a year ago and are now extremely heavy. The limiting factor on shipments is not physical availability of grain but rather price problems and the ability to move it to seaboard. It is believed to lie within the power of the Argentine Government, given sufficiently powerful inducements, to secure the export of a larger tonnage than that allowed for in the above totals.

4. *Supplies in the United States.*—From the 1946 crop some 10,600,000 tons of wheat (approximately 396 million bushels) were exported as grain and flour, and 4,100,000 tons of corn and other grains (approximately 175 million bushels). Our 1947 wheat crop was substantially larger than last year's, but the increase was more than offset in tonnage by the drop in the size of this year's corn crop compared with last year's. Indeed, the decline in the size of this year's total United States grain crop (wheat, corn, oats, rye, barley) below last year's is expected to be about as great as the total of all grain exported from the United States in the crop year ended June 30, 1947.

Nevertheless, the supply of grain is adequate to permit exports equal or nearly equal to last year's, provided excessively heavy feeding of wheat to livestock can be prevented. Exports of corn and coarse grains are expected to run to 70 million bushels this season. More than half, including all of the corn, has already been shipped. The critical decisions concern the procurement of wheat for export. The balance sheet for this year stands about as follows:

	<i>Bushels</i>
Estimated production-----	1, 409, 000, 000
Carry-over from 1946-----	83, 000, 000
Total supply-----	1, 492, 000, 000
Required for seed and domestic consumption and industrial use-----	-805, 000, 000
Balance—feeding, exports, and carry-over-----	887, 000, 000

The carry-over from this year's crop cannot safely go below 100,000,000 bushels, and it will be unwise to go that low unless the winter wheat crop prospects are good next spring. Deducting 100,000,000 bushels leaves a maximum of 787,000,000 bushels for livestock feeding and for export.

Even a substantial export program would not compel a disastrous liquidation of livestock. The shipment abroad of 500,000,000 bushels of wheat (approximately 13,500,000 tons) would leave over 250,000,000 bushels to be fed. Although, on this basis, the total amount of grain and feed concentrates available for feed would be smaller than in the last few years, there would be only about eight per cent less feed per unit of the animal population than last year. The condition of pastures and of ranges is excellent this year and the supply of hay per unit of the animal population will be larger than in any previous season. The following statistical comparison between the current and the preceding season summarizes these conclusions in quantitative form. The figures for 1947-48 are based on the assumption that 250,000,000 bushels of wheat will be fed.

	Average 1937-41	1942	1943	1944	1945	1946	1947 (est.)
Grain and feed concentrates utilized for feed (million tons).....	105. 6	142. 7	139. 2	129. 5	133. 8	128. 4	117. 5
Units in the animal population (millions)....	132. 8	160. 7	172. 6	147. 6	146. 6	138. 0	137. 0
Feed supply utilized per animal unit (tons)...	. 79	. 89	. 81	. 83	. 91	. 93	. 84

Clearly, the export of 500,000,000 bushels of wheat would impose no grave hardship on the American people as a whole, if its effects be measured in physical terms. At most it would cause some reduction in the supply of meat, poultry, and dairy products available for domestic consumption next year. At the present time our consumption of meat per capita is some 8 percent higher than in 1941, and over 20 percent higher than the average for 1935-39. The per capita consumption of poultry products has risen even more. That of dairy products is slightly higher than in 1941. In the producing areas the reduction in supply would not be significant; however, there would be a concentration of feed shortage in the deficit areas where the feed availability per animal unit would fall well below the national average. If the problem could be considered entirely in physical terms and if it could be assumed that there would be a wide and equitable distribution of the real sacrifice involved, the Committee would have no hesitation in recommending that we take steps to export at least 500,000,000 bushels of wheat in the current season. This quantity of wheat, together with 70,000,000 bushels of coarse grains, would mean total exports of 570,000,000 bushels (approximately 15,000,000 tons), almost exactly the same as last year.

5. *The economic problem.*—The difficult problem is not that of evaluating the relative urgency of European and domestic needs but rather of devising ways and means of securing at least 500,000,000 bushels of wheat for export without gravely serious secondary economic effects. Whether livestock in this country, or human beings in deficit areas abroad, get the major portion of our surplus of wheat (over and above the amount needed for seed, domestic human consumption, industrial use, and a safe carry-over), depends on prices, the behavior of American consumers, and the action taken by the United States Government during the next few weeks. If the European need is to be met, it is essential (1) to lessen the disappearance of wheat for livestock feed, (2) to acquire it for export (or subsequent resale in this country if serious need develops or the winter wheat crop fails) before the supply passes into hands from which it will not easily be drawn. If prices of eggs and poultry, dairy products and meat continue high, and if demand for these products continues strong, and if the price of corn remains high compared with that of wheat, the amount of wheat fed to livestock may exceed 400,000,000 bushels. In the cash markets wheat has been selling only slightly above corn. Outside the corn belt, wheat has often been a more economical buy than corn for feeders and feed mixers.

If the Department of Agriculture adopted a policy of aggressive buying in order to get the minimum quantity of wheat necessary to export as a matter of national policy, the price of wheat would probably rise sharply. The inflationary effects of such a development upon the whole economy need no elaboration. Moreover, the dilemma cannot be resolved for this winter by the reimposition of direct controls of any kind. Under existing law, the Government lacks specific authority to ration consumption, fix ceiling prices, or to prevent the diversion of wheat into nonfood uses. The Committee has not attempted to decide whether such direct controls would be effective. Immediate consideration should be given to the various types of controls which might be enacted by the Congress. However, action in the present situation cannot wait for consideration of possible legislation and the creation of new administrative machinery.

Through September 6, about 200,000,000 bushels of wheat had been acquired or committed for export by the Department of Agriculture and by private concerns. This included approximately 50,000,000 bushels on hand on June 30. Almost half of this 200,000,000 bushels will be required for occupied areas in Germany, Japan, and Korea. The Department has acquired very little wheat during recent weeks in which prices were advancing sharply. Unless radical and unexpected changes occur, it may not be able to acquire, with present buying practices, the bare minimum quantity of wheat necessary for export this year.

A policy decision needs to be made as to which horn of the dilemma to seize; whether it is better policy to make sure of getting the wheat at the risk of pushing wheat prices higher through more aggressive buying, or to buy wheat cautiously, on market breaks, at the risk of obtaining for export considerably less than will be needed to meet minimum requirements in overseas areas of special importance to the United States.

6. *Recommendations.*—In either event, but especially if the decision is to go out aggressively to get the wheat, certain steps may be taken

to alleviate the upward pressure in the grain market, to lessen the amount of wheat feeding, and to secure the best possible distribution and use of existing grain supplies throughout the world in the light of our national interest. The following are the major lines of action which the Committee believes should be followed.

(1) The most effective weapon that can be brought into play immediately to reduce pressure on the grain markets is a drive to cut the demand for meat, butter, poultry, and eggs by voluntary self-rationing on the part of consumers. Such an effort must be led by the President; it must be carefully planned, intensively organized, and based on obtaining the organized cooperation of food producers, processors, distributors and, above all, consumers. It can and should be based on both consumer resistance to high prices and the desire to make some modest sacrifice to prevent starvation abroad. If successful, this movement would certainly discourage excessive feeding of high-priced wheat and other feeds. It would tend to reduce inflationary pressure and make possible a more equitable distribution of our food supplies among American consumers.

(2) The Executive Departments should keep pressure on the commodity exchanges to set the highest margin requirements for non-hedging futures trading in grain that are obtainable without destroying the effectiveness of the exchanges for necessary hedging operations. The commodity exchanges do not make prices rise but there is evidence of a growing speculative interest in commodities that should be discouraged in every way possible.

(3) The State Department and other Departments concerned should use every means at the disposal of our Government to bring about changes in Argentine policy so as to secure the export of maximum quantities of grain and its distribution to the right countries on reasonable terms. Looking beyond the present season it is highly important that the Argentine Government encourage instead of discourage the planting of a large acreage for the next crop.

(4) Exports to countries other than Western Europe, and the occupied areas in the Orient, for which minimum requirements have been carefully calculated should be restricted to amounts demonstrably required to meet essential needs. In 1946-47 our exports to Eastern Europe totaled about 1.5 million tons, to Latin America 2.3 million tons, and to miscellaneous African and Asiatic countries another 1.5 million tons. In the light of this year's more acute world grain shortage, such exports should not be continued at this level except on the basis of demonstrated need. In screening the grain requirements of the importing areas, and in determining the relative priorities of the needs, it may be desirable to take into account the proportion of their total grain supplies which is available directly for human consumption and the proportion which is being fed to livestock and poultry.

(5) Although it is not relevant to the urgent problems of this winter, the Committee believes that immediate attention should be given to the desirability of increasing exports of nitrate fertilizers from the United States to Western Europe. With present rates of consumption, the shift of a moderate tonnage of nitrogen from use in the United States to use in Europe would make possible a large net addition to world food supplies. Such action would have to be taken within the next few months if additional fertilizer were to be available for application in the spring of 1948.

APPENDIX C

The Estimation of Magnitudes

In the section on the magnitude of the program (Part Two, Sec. V) discussion of two problems of calculation are omitted because of their technical character. They concern first, invisible items and the net position of dependent territories, and second, the problem of the convertibility of Eastern Hemisphere currencies.

As to the first, judgment concerning such invisible items as shipping revenues and costs, the return of foreign investments, etc., is rendered extremely difficult by lack of information as to precisely what is covered by the Paris estimates. The CEEC report showed a negative balance on invisible items of approximately 1.5 billion dollars in trade with the United States, approximate equality in trade with Canada and Latin America, and a surplus in trade with the Eastern Hemisphere. Examination of the documents submitted to the Paris conference by the several national governments indicates that this total may include some capital items (in one specific case the repayment of a RFC loan) in addition to the items on current account to which it should be limited. Unless any such capital account items were eliminated by the balance of payments committee of the Paris conference, the deficit has been slightly over-stated even on the assumptions made by the European countries themselves.

By far the largest single element in the deficit on invisible account of the European nations in their trade with the United States is the cost to them of ocean shipping transportation to be provided by United States flag vessels. If the recommendation made in the transportation section of this report (Part Two, Sec. IV, F) for the transfer of additional surplus United States tonnage to European flags is adopted, it is believed that the CEEC estimate of the deficit could be reduced by approximately 0.5 billion dollars. One qualification must, however, be attached to this potential reduction. If the magnitude of the European demand for United States coal has been understated in the CEEC report, it is probable that the reduction indicated above could not be achieved for the reason that such increased coal shipments would result in a higher demand for United States flag tonnage. On this latter basis, the possible reduction in the CEEC deficit on invisible account with the United States might be of the order of 0.3 billion dollars rather than the 0.5 billion dollars indicated above.

In estimating the net position of the dependent territories of the European nations with the Western Hemisphere, the CEEC figure of approximately 650 million dollars has been taken as the least favorable likely outcome. It is possible, however, that the period under consideration may witness an improvement in political and economic conditions in the dependent territories which will make possible a larger volume of trade between these areas and the Western Hemisphere.

Under these more favorable conditions, it has been roughly estimated that the deficit as stated by the CEEC at Paris might be reduced by as much as 0.2 billion dollars.

As to the second problem, that of the convertibility of Eastern Hemisphere currencies, it is impossible precisely to foresee the future status of trade relationships. The CEEC calculated separately the consolidated deficit of the participating countries in trade with the Western Hemisphere and the consolidated surplus expected to be earned in trade with the Eastern Hemisphere. Very properly, the Paris report implies that, under favorable circumstances, a part or all of the latter could be subtracted from the former to determine the net trading deficit which would have to be covered by the United States Government, the International Bank, and any other financing agencies. In terms of the CEEC estimates, the estimated Eastern Hemisphere surplus was a sizable item. For the 4-year period it was set down in the Paris report as 2.8 billion dollars.

Before considering the question of convertibility as such, it is worth while to point out that the figure is so large only because of the unrealistic assumption about the behavior or prices that was made by the CEEC. If the CEEC had assumed that the prices of European imports would be stable instead of declining over the four years of the program, the surplus in trade with the Eastern Hemisphere would have been a small factor in the situation. The Committee's revised estimates of the surplus range from 0.8 to 1.5 billion dollars on the assumption of prices 7.5 percent above July 1947 in the first year, unchanged from July 1947 in the second and third years, and 7.5 percent below 1947 in the fourth year. These calculations are compared with the CEEC figures in the table below. Any calculation which comes out with a much larger surplus is believed to be unrealistic. If the European countries find they are exporting substantially more to Eastern Hemisphere destinations than they need to pay for imports available from those areas, they will surely direct more of their exports to the Americas (unless of course, Eastern Hemisphere currencies are freely convertible into dollars). Accordingly, whatever is assumed about the convertibility does not greatly alter the size of the estimated deficit.

Unfortunately, the assumption either that the currencies in question will be generally convertible or, what amounts to the same thing, that the Eastern Hemisphere areas will develop large export surpluses in their trade with the United States is not believed to be altogether realistic. An appreciable part of this short run Eastern Hemisphere trading surplus is expected to be earned by the Western European countries in their trade with Russia and the satellite countries of Eastern Europe. The assumption of the revival of this trade may prove to be erroneous. In case it is revived, the free convertibility of these currencies into gold dollars is remote indeed.

What has actually been assumed in Part Two of this report in calculating the financial burden on the United States Treasury for the 4-year period is that the Eastern Hemisphere surplus would reduce the Western Hemisphere deficit to the extent of between 0.4 and 0.75 billion dollars. This range of figures represents one-half of the Eastern Hemisphere surplus on the assumption of stable prices. Fortunately, no problem arises in connection with the estimates of cost for the calendar year 1948. The CEEC figures for trade between Europe

and the Eastern Hemisphere for the first year of the program show a deficit of only 0.24 billion dollars. In the Committee's revised estimates this deficit is reduced to a range from 0.4 to 0.19 billion dollars. It seemed safe, therefore, to disregard Eastern Hemisphere trade in the calculations covering the first year of the program.

Balance of Payments of Participating Countries With Eastern Hemisphere

[In billions of dollars]

	CEEC	Low avail- ability	High avail- ability
1948			
1. Imports.....	-4.70	-3.86	-4.1
2. Exports.....	+4.30	+3.00	+3.8
3. Net position on invisible account.....	+ .38	+ .39	+ .4
4. Net position of dependent territories.....	- .22	- .22	- .2
5. Unadjusted balance of payments.....	- .24	- .19	- .0
1948-51			
1. Imports.....	-22.20	-15.44	-19.8
2. Exports.....	+22.06	+15.20	+19.5
3. Net position on invisible account.....	+2.08	+1.74	+2.5
4. Net position of dependent territories.....	- .88	- .74	- .7
5. Unadjusted balance of payments.....	+1.04	+ .76	+1.4
ADJUSTMENT FOR PRICE OF IMPORTS			
6. Assumption of stable import prices.....		+ .07	+ .1
7. Assumption of falling import prices.....	+1.77	+1.22	+1.5
ADJUSTED BALANCE OF PAYMENTS			
8. Assumption of stable import prices.....		+ .83	+1.5
9. Assumption of falling import prices.....	+2.81	+1.98	+3.0